Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
H I	$1s-2p$	^{2}S$-^2$P^o	*1215.6700*	0	*82259.164506*	2	6	6.26E+08	4.16E−01
			1215.6736	0	[82258.920581]	2	2	6.27E+08	1.39E−01
			1215.6682	0	[82259.286468]	2	4	6.25E+08	2.77E−01
H I	$1s-3p$	^{2}S$-^2$P^o	*1025.7222*	0	*97492.285237*	2	6	1.67E+08	7.90E−02
			1025.7229	0	[97492.212963]	2	2	1.67E+08	2.63E−02
			1025.7218	0	[97492.321374]	2	4	1.67E+08	5.27E−02
H I	$1s-4p$	^{2}S$-^2$P^o	*972.5367*	0	*102823.880910*	2	6	6.82E+07	2.90E−02
			972.5370	0	[102823.850419]	2	2	6.82E+07	9.67E−03
			972.5366	0	[102823.896155]	2	4	6.81E+07	1.93E−02
H I	$1s-5p$	^{2}S$-^2$P^o	*949.7430*	0	*105291.646159*	2	6	3.43E+07	1.39E−02
			949.7431	0	[105291.630548]	2	2	3.44E+07	4.65E−03
			949.7429	0	[105291.653965]	2	4	3.44E+07	9.30E−03
H I	$1s-6p$	^{2}S$-^2$P^o	*937.8034*	0	*106632.159471*	2	6	1.97E+07	7.80E−03
			937.8035	0	[106632.150437]	2	2	1.97E+07	2.60E−03
			937.8033	0	[106632.163988]	2	4	1.97E+07	5.20E−03
H I	$1s-7p$	^{2}S$-^2$P^o	*930.7482*	0	*107440.446112*	2	6	1.24E+07	4.82E−03
			930.7482	0	[107440.448957]	2	4	1.24E+07	3.21E−03
			930.7482	0	[107440.440423]	2	2	1.23E+07	1.60E−03
H I	$1s-8p$	^{2}S$-^2$P^o	*926.2256*	0	*107965.054900*	2	6	8.27E+06	3.19E−03
			926.2257	0	[107965.051089]	2	2	8.24E+06	1.06E−03
			926.2256	0	[107965.056806]	2	4	8.24E+06	2.12E−03
H I	$1s-9p$	^{2}S$-^2$P^o	*923.1503*	0	*108324.724769*	2	6	5.79E+06	2.22E−03
			923.1503	0	[108324.726107]	2	4	5.79E+06	1.48E−03
			923.1503	0	[108324.722092]	2	2	5.78E+06	7.38E−04
H I	$1s-10p$	^{2}S$-^2$P^o	*920.9630*	0	*108581.994396*	2	6	4.19E+06	1.60E−03
			920.9630	0	[108581.995372]	2	4	4.21E+06	1.07E−03
			920.9630	0	[108581.992445]	2	2	4.21E+06	5.35E−04
He I	$1s^2-1s2p$	^{1}S$-^1$P^o	584.3340	0	171135.000	1	3	1.86E+09	2.85E−01
He I	$1s^2-1s3p$	^{1}S$-^1$P^o	537.0296	0	186209.471	1	3	5.80E+08	7.52E−02
He I	$1s^2-1s4p$	^{1}S$-^1$P^o	522.2128	0	191492.817	1	3	2.50E+08	3.07E−02
He I	$1s^2-1s5p$	^{1}S$-^1$P^o	515.6166	0	193942.57	1	3	1.29E+08	1.54E−02
He I	$1s^2-1s6p$	^{1}S$-^1$P^o	512.0982	0	195275.04	1	3	7.49E+07	8.83E−03
He I	$1s^2-1s7p$	^{1}S$-^1$P^o	509.9979	0	196079.24	1	3	4.73E+07	5.53E−03
He I	$1s^2-1s8p$	^{1}S$-^1$P^o	508.6431	0	196601.51	1	3	3.17E+07	3.69E−03
He I	$1s^2-1s9p$	^{1}S$-^1$P^o	507.7178	0	196959.79	1	3	2.23E+07	2.59E−03
He I	$1s^2-1s10p$	^{1}S$-^1$P^o	507.0576	0	197216.24	1	3	1.63E+07	1.88E−03
He II	$1s-2p$	^{2}S$-^2$P^o	*303.7822*	0	*329183.2042*	2	6	1.00E+10	4.16E−01
			303.7858	0	[329179.2994]	2	2	1.00E+10	1.39E−01
			303.7804	0	[329185.1566]	2	4	1.00E+10	2.77E−01
He II	$1s-3p$	^{2}S$-^2$P^o	*256.3169*	0	*390141.9885*	2	6	2.67E+09	7.90E−02
			256.3177	0	[390140.8316]	2	2	2.67E+09	2.63E−02
			256.3166	0	[390142.5670]	2	4	2.68E+09	5.27E−02
He II	$1s-4p$	^{2}S$-^2$P^o	*243.0266*	0	*411477.6178*	2	6	1.09E+09	2.90E−02
			243.0269	0	[411477.1297]	2	2	1.09E+09	9.67E−03
			243.0264	0	[411477.8619]	2	4	1.09E+09	1.93E−02
He II	$1s-5p$	^{2}S$-^2$P^o	*237.3307*	0	*421352.9360*	2	6	5.49E+08	1.39E−02
			237.3309	0	[421352.6861]	2	2	5.51E+08	4.65E−03
			237.3307	0	[421353.0609]	2	4	5.51E+08	9.30E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
He II	$1s-6p$	^{2}S$-^2$P$^\circ$	*234.3472*	0	*426717.2880*	2	6	3.16E+08	7.80E−03
			234.3473	0	[426717.1434]	2	2	3.16E+08	2.60E−03
			234.3472	0	[426717.3603]	2	4	3.16E+08	5.20E−03
He II	$1s-7p$	^{2}S$-^2$P$^\circ$	*232.5842*	0	*429951.8134*	2	6	1.98E+08	4.82E−03
			232.5843	0	[429951.7224]	2	2	1.97E+08	1.60E−03
			232.5842	0	[429951.8590]	2	4	1.98E+08	3.21E−03
He II	$1s-8p$	^{2}S$-^2$P$^\circ$	*231.4541*	0	*432051.1395*	2	6	1.32E+08	3.19E−03
			231.4541	0	[432051.1700]	2	4	1.32E+08	2.12E−03
			231.4541	0	[432051.0785]	2	2	1.32E+08	1.06E−03
He II	$1s-9p$	^{2}S$-^2$P$^\circ$	*230.6856*	0	*433490.4276*	2	6	9.28E+07	2.22E−03
			230.6856	0	[433490.4490]	2	4	9.28E+07	1.48E−03
			230.6856	0	[433490.3847]	2	2	9.25E+07	7.38E−04
He II	$1s-10p$	^{2}S$-^2$P$^\circ$	*230.1390*	0	*434519.9400*	2	6	6.72E+07	1.60E−03
			230.1391	0	[434519.9088]	2	2	6.74E+07	5.35E−04
			230.1390	0	[434519.9556]	2	4	6.74E+07	1.07E−03
Li I	$1s^2 2s-1s^2 2p$	^{2}S$-^2$P$^\circ$	*6709.6631*	0	*14903.878*	2	6	3.69E+07	7.48E−01
			6709.7639	0	14903.654	2	2	3.69E+07	2.49E−01
			6709.6127	0	14903.990	2	4	3.70E+07	4.99E−01
Li I	$1s^2 2s-1s^2 3p$	^{2}S$-^2$P$^\circ$	*3233.5637*	0	*30925.632*	2	6	1.02E+06	4.81E−03
			3233.5637	0	30925.632	2	4	1.02E+06	3.20E−03
			3233.5637	0	30925.632	2	2	1.03E+06	1.61E−03
Li I	$1s^2 2s-1s^2 4p$	^{2}S$-^2$P$^\circ$	*2741.995*	0	*36469.79*	2	6	1.27E+06	4.31E−03
			2741.995	0	36469.79	2	4	1.28E+06	2.88E−03
			2741.995	0	36469.79	2	2	1.27E+06	1.43E−03
Li I	$1s^2 2s-1s^2 5p$	^{2}S$-^2$P$^\circ$	*2563.070*	0	*39015.71*	2	6	8.73E+05	2.58E−03
			2563.070	0	39015.71	2	4	8.68E+05	1.71E−03
			2563.070	0	39015.71	2	2	8.72E+05	8.59E−04
Li I	$1s^2 2s-1s^2 6p$	^{2}S$-^2$P$^\circ$	*2475.780*	0	*40391.31*	2	6	5.73E+05	1.58E−03
			2475.780	0	40391.31	2	4	5.71E+05	1.05E−03
			2475.780	0	40391.31	2	2	5.76E+05	5.29E−04
Li I	$1s^2 2s-1s^2 7p$	^{2}S$-^2$P$^\circ$	*2426.149*	0	*41217.58*	2	6	3.85E+05	1.02E−03
			2426.149	0	41217.58	2	4	3.86E+05	6.82E−04
			2426.149	0	41217.58	2	2	3.86E+05	3.41E−04
Li II	$1s^2-1s2p$	^{1}S$-^1$P$^\circ$	199.2792	0	501808.59	1	3	2.59E+10	4.62E−01
Li II	$1s^2-1s3p$	^{1}S$-^1$P$^\circ$	178.0142	0	561752.82	1	3	7.86E+09	1.12E−01
Li II	$1s^2-1s4p$	^{1}S$-^1$P$^\circ$	171.5756	0	582833.3	1	3	3.32E+09	4.40E−02
Li II	$1s^2-1s5p$	^{1}S$-^1$P$^\circ$	168.7428	0	592618.0	1	3	1.70E+09	2.18E−02
Li II	$1s^2-1s6p$	^{1}S$-^1$P$^\circ$	167.2401	0	597942.6	1	3	9.94E+08	1.25E−02
Li II	$1s^2-1s7p$	^{1}S$-^1$P$^\circ$	166.346	0	601157	1	3	6.22E+08	7.74E−03
Li III	$1s-2p$	^{2}S$-^2$P$^\circ$	*134.9976*	0	*740754.123*	2	6	5.08E+10	4.16E−01
			135.0012	0	[740734.350]	2	2	5.09E+10	1.39E−01
			134.9958	0	[740764.009]	2	4	5.07E+10	2.77E−01
Li III	$1s-3p$	^{2}S$-^2$P$^\circ$	*113.9049*	0	*877924.990*	2	6	1.35E+10	7.90E−02
			113.9057	0	[877919.131]	2	2	1.35E+10	2.63E−02
			113.9046	0	[877927.919]	2	4	1.35E+10	5.27E−02
Li III	$1s-4p$	^{2}S$-^2$P$^\circ$	*107.9989*	0	*925935.071*	2	6	5.53E+09	2.90E−02
			107.9992	0	[925932.599]	2	2	5.53E+09	9.67E−03
			107.9988	0	[925936.307]	2	4	5.52E+09	1.93E−02
Li III	$1s-5p$	^{2}S$-^2$P$^\circ$	*105.4678*	0	*948156.727*	2	6	2.78E+09	1.39E−02
			105.4679	0	[948155.461]	2	2	2.79E+09	4.65E−03
			105.4677	0	[948157.359]	2	4	2.79E+09	9.30E−03

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Li III	$1s-6p$	^{2}S$-^2$P$^\circ$	*104.1420*	0	*960227.657*	2	6	1.60E+09	7.80E−03
			104.1420	0	[960226.924]	2	2	1.60E+09	2.60E−03
			104.1419	0	[960228.023]	2	4	1.60E+09	5.20E−03
Li III	$1s-7p$	^{2}S$-^2$P$^\circ$	*103.3585*	0	*967505.998*	2	6	1.00E+09	4.82E−03
			103.3586	0	[967505.536]	2	2	9.99E+08	1.60E−03
			103.3585	0	[967506.228]	2	4	1.00E+09	3.21E−03
Li III	$1s-8p$	^{2}S$-^2$P$^\circ$	*102.8563*	0	*972229.894*	2	6	6.70E+08	3.19E−03
			102.8564	0	[972229.585]	2	2	6.68E+08	1.06E−03
			102.8563	0	[972230.049]	2	4	6.68E+08	2.12E−03
Li III	$1s-9p$	^{2}S$-^2$P$^\circ$	*102.5148*	0	*975468.567*	2	6	4.70E+08	2.22E−03
			102.5149	0	[975468.350]	2	2	4.68E+08	7.38E−04
			102.5148	0	[975468.675]	2	4	4.70E+08	1.48E−03
Li III	$1s-10p$	^{2}S$-^2$P$^\circ$	*102.2720*	0	*977785.161*	2	6	3.40E+08	1.60E−03
			102.2720	0	[977785.003]	2	2	3.41E+08	5.35E−04
			102.2719	0	[977785.240]	2	4	3.41E+08	1.07E−03
Be I	$2s^2-2s2p$	^{1}S$-^1$P$^\circ$	2349.329	0	42565.35	1	3	5.60E+08	1.39E+00
Be I	$2s^2-2s3p$	^{1}S$-^1$P$^\circ$	1661.478	0	60187.36	1	3	1.26E+07	1.56E−02
Be I	$2s^2-2s4p$	^{1}S$-^1$P$^\circ$	1491.765	0	67034.70	1	3	8.43E+02	8.44E−07
Be I	$2s^2-2s5p$	^{1}S$-^1$P$^\circ$	1426.117	0	70120.49	1	3	3.90E+05	3.57E−04
Be II	$1s^22s-1s^22p$	^{2}S$-^2$P$^\circ$	*3131.542*	0	*31933.15*	2	6	1.14E+08	5.01E−01
			3131.973	0	31928.76	2	2	1.13E+08	1.66E−01
			3131.327	0	31935.34	2	4	1.13E+08	3.33E−01
Be II	$1s^22s-1s^23p$	^{2}S$-^2$P$^\circ$	*1036.3055*	0	*96496.64*	2	6	1.71E+08	8.26E−02
			1036.3193	0	96495.36	2	2	1.71E+08	2.75E−02
			1036.2986	0	96497.28	2	4	1.71E+08	5.51E−02
Be II	$1s^22s-1s^24p$	^{2}S$-^2$P$^\circ$	*842.0269*	0	*118761.06*	2	6	9.82E+07	3.13E−02
			842.0306	0	118760.53	2	2	9.78E+07	1.04E−02
			842.0250	0	118761.32	2	4	9.78E+07	2.08E−02
Be II	$1s^22s-1s^25p$	^{2}S$-^2$P$^\circ$	*775.3621*	0	*128972.00*	2	6	5.47E+07	1.48E−02
			775.3621	0	128972.00	2	4	5.50E+07	9.92E−03
			775.3621	0	128972.00	2	2	5.50E+07	4.96E−03
Be II	$1s^22s-1s^26p$	^{2}S$-^2$P$^\circ$	*743.5740*	0	*134485.6*	2	6	3.30E+07	8.21E−03
			743.5740	0	134485.6	2	4	3.31E+07	5.48E−03
			743.5740	0	134485.6	2	2	3.29E+07	2.73E−03
Be II	$1s^22s-1s^27p$	^{2}S$-^2$P$^\circ$	*725.710*	0	*137796*	2	6	2.14E+07	5.06E−03
			725.710	0	137796	2	4	2.14E+07	3.38E−03
			725.710	0	137796	2	2	2.13E+07	1.68E−03
Be III	$1s^2-1s2p$	^{1}S$-^1$P$^\circ$	100.2552	0	997454	1	3	1.23E+11	5.55E−01
Be III	$1s^2-1s3p$	^{1}S$-^1$P$^\circ$	88.3088	0	1132390	1	3	3.62E+10	1.27E−01
Be III	$1s^2-1s4p$	^{1}S$-^1$P$^\circ$	84.7580	0	1179830	1	3	1.53E+10	4.93E−02
Be III	$1s^2-1s5p$	^{1}S$-^1$P$^\circ$	83.2020	0	1201894	1	3	7.80E+09	2.43E−02
Be III	$1s^2-1s6p$	^{1}S$-^1$P$^\circ$	82.3770	0	1213931	1	3	4.49E+09	1.37E−02
Be III	$1s^2-1s7p$	^{1}S$-^1$P$^\circ$	81.8910	0	1221135	1	3	2.84E+09	8.57E−03
Be IV	$1s-2p$	^{2}S$-^2$P$^\circ$	*75.9277*	0	*1317041.756*	2	6	1.60E+11	4.16E−01
			75.9313	0	[1316979.250]	2	2	1.61E+11	1.39E−01
			75.9259	0	[1317073.008]	2	4	1.60E+11	2.77E−01
Be IV	$1s-3p$	^{2}S$-^2$P$^\circ$	*64.0648*	0	*1560919.059*	2	6	4.28E+10	7.90E−02
			64.0656	0	[1560900.538]	2	2	4.27E+10	2.63E−02
			64.0644	0	[1560928.319]	2	4	4.28E+10	5.27E−02

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Be IV	$1s-4p$	^{2}S$-^2$P^o	*60.7431*	0	*1646276.991*	2	6	1.75E+10	2.90E−02
			60.7434	0	[1646269.178]	2	2	1.75E+10	9.67E−03
			60.7430	0	[1646280.898]	2	4	1.74E+10	1.93E−02
Be IV	$1s-5p$	^{2}S$-^2$P^o	*59.3195*	0	*1685785.035*	2	6	8.78E+09	1.39E−02
			59.3197	0	[1685781.035]	2	2	8.81E+09	4.65E−03
			59.3195	0	[1685787.036]	2	4	8.81E+09	9.30E−03
Be IV	$1s-6p$	^{2}S$-^2$P^o	*58.5739*	0	*1707245.902*	2	6	5.05E+09	7.80E−03
			58.5739	0	[1707243.587]	2	2	5.05E+09	2.60E−03
			58.5738	0	[1707247.060]	2	4	5.05E+09	5.20E−03
Be IV	$1s-7p$	^{2}S$-^2$P^o	*58.1332*	0	*1720185.973*	2	6	3.17E+09	4.82E−03
			58.1333	0	[1720184.515]	2	2	3.16E+09	1.60E−03
			58.1332	0	[1720186.702]	2	4	3.17E+09	3.21E−03
Be IV	$1s-8p$	^{2}S$-^2$P^o	*57.8508*	0	*1728584.492*	2	6	2.12E+09	3.19E−03
			57.8508	0	[1728584.980]	2	4	2.11E+09	2.12E−03
			57.8508	0	[1728583.515]	2	2	2.11E+09	1.06E−03
Be IV	$1s-9p$	^{2}S$-^2$P^o	*57.6587*	0	*1734342.440*	2	6	1.48E+09	2.22E−03
			57.6588	0	[1734341.754]	2	2	1.48E+09	7.38E−04
			57.6587	0	[1734342.783]	2	4	1.48E+09	1.48E−03
Be IV	$1s-10p$	^{2}S$-^2$P^o	*57.5221*	0	*1738461.037*	2	6	1.08E+09	1.60E−03
			57.5222	0	[1738460.537]	2	2	1.08E+09	5.35E−04
			57.5221	0	[1738461.287]	2	4	1.08E+09	1.07E−03
B I	$2s^22p-2s^23s$	^{2}P$^o-^2$S	*2498.1588*	*10.169*	40039.650	6	2	2.59E+08	8.07E−02
			2498.4762	15.254	40039.650	4	2	1.72E+08	8.07E−02
			2497.5243	0	40039.650	2	2	8.64E+07	8.08E−02
B I	$2s^22p-2s2p^2$	^{2}P$^o-^2$D	*2089.997*	*10.169*	*47857.12*	6	10	3.22E+07	3.51E−02
			2090.228	15.254	47856.93	4	4	5.36E+06	3.51E−03
			2090.214	15.254	47857.24	4	6	3.21E+07	3.15E−02
			2089.562	0	47856.93	2	4	2.68E+07	3.51E−02
B I	$2s^22p-2s^23d$	^{2}P$^o-^2$D	*1826.2316*	*10.169*	*54767.736*	6	10	2.10E+08	1.75E−01
			1826.4047	15.254	54767.633	4	4	3.50E+07	1.75E−02
			1826.3990	15.254	54767.804	4	6	2.11E+08	1.58E−01
			1825.8960	0	54767.633	2	4	1.75E+08	1.75E−01
B I	$2s^22p-2s^24s$	^{2}P$^o-^2$S	*1818.1814*	*10.169*	55010.181	6	2	9.44E+07	1.56E−02
			1818.3495	15.254	55010.181	4	2	6.29E+07	1.56E−02
			1817.8453	0	55010.181	2	2	3.15E+07	1.56E−02
B I	$2s^22p-2s^24d$	^{2}P$^o-^2$D	*1667.132*	*10.169*	*59993.43*	6	10	1.05E+08	7.31E−02
			1667.273	15.254	59993.43	4	6	1.05E+08	6.58E−02
			1667.273	15.254	59993.43	4	4	1.75E+07	7.31E−03
			1666.849	0	59993.43	2	4	8.79E+07	7.32E−02
B I	$2s^22p-2s^25s$	^{2}P$^o-^2$S	*1662.890*	*10.169*	60146.45	6	2	6.00E+07	8.29E−03
			1663.030	15.254	60146.45	4	2	4.00E+07	8.29E−03
			1662.609	0	60146.45	2	2	2.00E+07	8.29E−03
B I	$2s^22p-2s^26s$	^{2}P$^o-^2$S	*1600.716*	*10.169*	62482.23	6	2	5.27E+07	6.75E−03
			1600.846	15.254	62482.23	4	2	3.51E+07	6.75E−03
			1600.455	0	62482.23	2	2	1.76E+07	6.75E−03
B I	$2s^22p-2s^25d$	^{2}P$^o-^2$D	*1600.633*	*10.169*	*62485.47*	6	10	5.67E+07	3.63E−02
			1600.763	15.254	62485.47	4	6	5.67E+07	3.27E−02
			1600.763	15.254	62485.47	4	4	9.45E+06	3.63E−03
			1600.372	0	62485.47	2	4	4.73E+07	3.63E−02
B I	$2s^22p-2s^27s$*	^{2}P$^o-^2$S	*1573.552*	*10.169*	63560.64	6	2	5.89E+07	7.29E−03
			1573.678	15.254	63560.64	4	2	3.93E+07	7.29E−03
			1573.301	0	63560.64	2	2	1.96E+07	7.29E−03
B I	$2s^22p-2s^26d$	^{2}P$^o-^2$D	*1566.536*	*10.169*	*63845.29*	6	10	3.36E+07	2.06E−02
			1566.661	15.254	63845.29	4	6	3.35E+07	1.85E−02
			1566.661	15.254	63845.29	4	4	5.60E+06	2.06E−03
			1566.286	0	63845.29	2	4	2.80E+07	2.06E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
B I	$2s^2 2p - 2s^2 8s$*	^{2}P^o – ^{2}S	*1558.948*	*10.169*	64156.00	6	2	8.17E+07	9.92E−03
			1559.071	15.254	64156.00	4	2	5.44E+07	9.92E−03
			1558.701	0	64156.00	2	2	2.72E+07	9.92E−03
B I	$2s^2 2p - 2s^2 7d$	^{2}P^o – ^{2}D	*1546.667*	*10.169*	*64665.32*	6	10	2.14E+07	1.28E−02
			1546.789	15.254	64665.32	4	6	2.12E+07	1.14E−02
			1546.789	15.254	64665.32	4	4	3.57E+06	1.28E−03
			1546.424	0	64665.32	2	4	1.79E+07	1.28E−02
B I	$2s^2 2p - 2s^2 9s$:*	^{2}P^o – ^{2}S	*1543.641*	*10.169*	64792.07	6	2	1.26E+08	1.50E−02
			1543.762	15.254	64792.07	4	2	8.40E+07	1.50E−02
			1543.399	0	64792.07	2	2	4.20E+07	1.50E−02
B I	$2s^2 2p - 2s^2 8d$	^{2}P^o – ^{2}D	*1534.045*	*10.169*	*65197.32*	6	10	1.44E+07	8.46E−03
			1534.164	15.254	65197.32	4	6	1.44E+07	7.62E−03
			1534.164	15.254	65197.32	4	4	2.40E+06	8.46E−04
			1533.805	0	65197.32	2	4	1.20E+07	8.46E−03
B I	$2s^2 2p - 2s 2p^2$:*	^{2}P^o – ^{2}S	*1532.332*	*10.169*	65270.16	6	2	1.44E+08	1.69E−02
			1532.452	15.254	65270.16	4	2	9.60E+07	1.69E−02
			1532.094	0	65270.16	2	2	4.80E+07	1.69E−02
B I	$2s^2 2p - 2s^2 9d$	^{2}P^o – ^{2}D	*1525.519*	*10.169*	*65561.64*	6	10	1.01E+07	5.89E−03
			1525.637	15.254	65561.64	4	6	1.01E+07	5.31E−03
			1525.637	15.254	65561.64	4	4	1.69E+06	5.89E−04
			1525.282	0	65561.64	2	4	8.46E+06	5.90E−03
B I	$2s^2 2p - 2s^2$10s:	^{2}P^o – ^{2}S	*1524.409*	*10.169*	65609.35	6	2	8.78E+07	1.02E−02
			1524.527	15.254	65609.35	4	2	5.85E+07	1.02E−02
			1524.173	0	65609.35	2	2	2.93E+07	1.02E−02
B I	$2s^2 2p - 2s^2 10d$	^{2}P^o – ^{2}D	*1519.481*	*10.169*	*65822.12*	6	10	7.40E+06	4.27E−03
			1519.598	15.254	65822.12	4	6	7.41E+06	3.85E−03
			1519.598	15.254	65822.12	4	4	1.23E+06	4.27E−04
			1519.246	0	65822.12	2	4	6.17E+06	4.27E−03
B I	$2s^2 2p - 2s 2p^2$	^{2}P^o – ^{2}P	*1378.921*	*10.169*	*72530.64*	6	6	2.05E+09	5.85E−01
			1379.165	15.254	72522.87	4	2	6.83E+08	9.74E−02
			1378.944	15.254	72534.52	4	4	1.71E+09	4.88E−01
			1378.875	0	72522.87	2	2	1.37E+09	3.90E−01
			1378.654	0	72534.52	2	4	3.42E+08	1.95E−01
B I	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 3p$	^{2}P^o – ^{2}P	*1151.37*	*10.169*	*86863.1*	6	6	2.93E+08	5.82E−02
			1151.49	15.254	86859.6	4	2	9.76E+07	9.70E−03
			1151.42	15.254	86864.9	4	4	2.44E+08	4.85E−02
			1151.28	0	86859.6	2	2	1.95E+08	3.88E−02
			1151.21	0	86864.9	2	4	4.88E+07	1.94E−02
B I	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 4p$	^{2}P^o – ^{2}P	*1047.779*	*10.169*	*95450.1*	6	6	2.11E+07	3.47E−03
			1047.865	15.254	95447.4	4	2	7.02E+06	5.78E−04
			1047.820	15.254	95451.5	4	4	1.76E+07	2.89E−03
			1047.697	0	95447.4	2	2	1.40E+07	2.31E−03
			1047.652	0	95451.5	2	4	3.49E+06	1.15E−03
B I	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 5p$	^{2}P^o – ^{2}P	*1011.007*	*10.169*	*98921.5*	6	6	3.25E+06	4.98E−04
			1011.058	15.254	98921.5	4	4	2.71E+06	4.15E−04
			1010.903	0	98921.5	2	4	5.42E+05	1.66E−04
				0		2	2	2.15E+06	3.29E−04
				15.254		4	2	1.07E+06	8.22E−05
B I	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 6p$	^{2}P^o – ^{2}P	*993.329*	*10.169*	*100681.7*	6	6	8.25E+05	1.22E−04
			993.380	15.254	100681.7	4	4	6.89E+05	1.02E−04
			993.229	0	100681.7	2	4	1.38E+05	4.08E−05
				0		2	2	5.47E+05	8.09E−05
				15.254		4	2	2.73E+05	2.02E−05
B II	$2s^2 - 2s 2p$	^{1}S – ^{1}P^o	1362.461	0	73396.60	1	3	1.21E+09	1.01E+00
B II	$2s^2 - 2s 3p$	^{1}S – ^{1}P^o	693.9473	0	144103.17	1	3	4.58E+08	9.93E−02
B II	$2s^2 - 2s 4p$	^{1}S – ^{1}P^o	586.1955	0	170591.55	1	3	3.33E+08	5.14E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
B II	$2s^2-2s5p$	^{1}S$-^1$P^o	547.5408	0	182634.78	1	3	1.79E+08	2.42E−02
B III	$1s^22s-1s^22p$	^{2}S$-^2$P^o	*2066.921*	0	*48381.13*	2	6	1.89E+08	3.64E−01
			2067.893	0	48358.40	2	2	1.89E+08	1.21E−01
			2066.436	0	48392.50	2	4	1.90E+08	2.43E−01
B III	$1s^22s-1s^23p$	^{2}S$-^2$P^o	*518.2473*	0	*192958.08*	2	6	1.27E+09	1.53E−01
			518.2652	0	192951.40	2	2	1.27E+09	5.11E−02
			518.2383	0	192961.42	2	4	1.27E+09	1.02E−01
B III	$1s^22s-1s^24p$	^{2}S$-^2$P^o	*411.8067*	0	*242832.41*	2	6	6.53E+08	4.98E−02
			411.8113	0	242829.66	2	2	6.53E+08	1.66E−02
			411.8043	0	242833.78	2	4	6.51E+08	3.31E−02
B III	$1s^22s-1s^25p$	^{2}S$-^2$P^o	*376.3315*	0	*265723.18*	2	6	3.53E+08	2.25E−02
			376.3335	0	265721.77	2	2	3.54E+08	7.51E−03
			376.3305	0	265723.88	2	4	3.53E+08	1.50E−02
B IV	$1s^2-1s2p$	^{1}S$-^1$P^o	60.3145	0	1657980	1	3	3.73E+11	6.11E−01
B IV	$1s^2-1s3p$	^{1}S$-^1$P^o	52.6807	0	1898230	1	3	1.08E+11	1.35E−01
B IV	$1s^2-1s4p$	^{1}S$-^1$P^o	50.4347	0	1982760	1	3	4.55E+10	5.21E−02
B IV	$1s^2-1s5p$	^{1}S$-^1$P^o	49.4549	0	2022040	1	3	2.33E+10	2.56E−02
B V	$1s-2p$	^{2}S$-^2$P^o	*48.5873*	0	*2058150.68*	2	6	3.92E+11	4.16E−01
			48.5909	0	[2057998.04]	2	2	3.93E+11	1.39E−01
			48.5855	0	[2058227.01]	2	4	3.91E+11	2.77E−01
B V	$1s-3p$	^{2}S$-^2$P^o	*40.9964*	0	*2439240.83*	2	6	1.05E+11	7.90E−02
			40.9971	0	[2439195.60]	2	2	1.04E+11	2.63E−02
			40.9960	0	[2439263.44]	2	4	1.05E+11	5.27E−02
B V	$1s-4p$	^{2}S$-^2$P^o	*38.8708*	0	*2572624.52*	2	6	4.27E+10	2.90E−02
			38.8711	0	[2572605.44]	2	2	4.27E+10	9.67E−03
			38.8707	0	[2572634.06]	2	4	4.26E+10	1.93E−02
B V	$1s-5p$	^{2}S$-^2$P^o	*37.9599*	0	*2634360.93*	2	6	2.14E+10	1.39E−02
			37.9600	0	[2634351.16]	2	2	2.15E+10	4.65E−03
			37.9598	0	[2634365.81]	2	4	2.15E+10	9.30E−03
B V	$1s-6p$	^{2}S$-^2$P^o	*37.4827*	0	*2667896.04*	2	6	1.23E+10	7.80E−03
			37.4828	0	[2667890.39]	2	2	1.23E+10	2.60E−03
			37.4827	0	[2667898.87]	2	4	1.23E+10	5.20E−03
B V	$1s-7p$	^{2}S$-^2$P^o	*37.2008*	0	*2688116.28*	2	6	7.74E+09	4.82E−03
			37.2008	0	[2688112.72]	2	2	7.71E+09	1.60E−03
			37.2007	0	[2688118.06]	2	4	7.74E+09	3.21E−03
B V	$1s-8p$	^{2}S$-^2$P^o	*37.0200*	0	*2701239.78*	2	6	5.18E+09	3.19E−03
			37.0201	0	[2701237.40]	2	2	5.16E+09	1.06E−03
			37.0200	0	[2701240.97]	2	4	5.16E+09	2.12E−03
B V	$1s-9p$	^{2}S$-^2$P^o	*36.8971*	0	*2710237.09*	2	6	3.63E+09	2.22E−03
			36.8972	0	[2710235.42]	2	2	3.62E+09	7.38E−04
			36.8971	0	[2710237.93]	2	4	3.63E+09	1.48E−03
B V	$1s-10p$	^{2}S$-^2$P^o	*36.8097*	0	*2716672.75*	2	6	2.63E+09	1.60E−03
			36.8098	0	[2716671.53]	2	2	2.63E+09	5.35E−04
			36.8097	0	[2716673.36]	2	4	2.63E+09	1.07E−03
C I	$2s^22p^2-2s^22p3s$	^{3}P$-^3$P^o	*1657.181*	*29.58*	*60373.00*	9	9	3.59E+08	1.48E−01
			1658.121	43.40	60352.63	5	3	1.49E+08	3.69E−02
			1657.907	16.40	60333.43	3	1	3.59E+08	4.93E−02
			1657.379	16.40	60352.63	3	3	8.96E+07	3.69E−02
			1657.008	43.40	60393.14	5	5	2.70E+08	1.11E−01
			1656.929	0	60352.63	1	3	1.20E+08	1.48E−01
			1656.267	16.40	60393.14	3	5	8.99E+07	6.16E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C I	$2s^22p^2-2s2p^3$	^{3}P–^{3}D^o	*1561.054*	*29.58*	*64088.85*	9	15	1.17E+08	7.14E−02
			1561.438	43.40	64086.92	5	7	1.17E+08	6.00E−02
			1561.367	43.40	64089.85	5	3	3.26E+06	7.15E−04
			1561.340	43.40	64090.95	5	5	2.93E+07	1.07E−02
			1560.709	16.40	64089.85	3	3	4.90E+07	1.79E−02
			1560.682	16.40	64090.95	3	5	8.81E+07	5.36E−02
			1560.309	0	64089.85	1	3	6.52E+07	7.14E−02
C I	$2s^22p^2-2s2p^3$	^{3}P–^{3}P^o	*1329.339*	*29.58*	*75254.93*	9	9	2.30E+08	6.09E−02
			1329.600	43.40	75253.97	5	3	9.56E+07	1.52E−02
			1329.577	43.40	75255.27	5	5	1.72E+08	4.57E−02
			1329.123	16.40	75253.97	3	3	5.74E+07	1.52E−02
			1329.100	16.40	75255.27	3	5	5.75E+07	2.54E−02
			1329.085	16.40	75256.12	3	1	2.30E+08	2.03E−02
			1328.834	0	75253.97	1	3	7.66E+07	6.08E−02
C I	$2s^22p^2-2s^22p4s$	^{3}P–^{3}P^o	*1280.356*	*29.58*	*78132.85*	9	9	8.63E+07	2.12E−02
			1280.847	43.40	78116.74	5	3	3.58E+07	5.29E−03
			1280.597	16.40	78104.98	3	1	8.60E+07	7.05E−03
			1280.404	16.40	78116.74	3	3	2.15E+07	5.29E−03
			1280.333	43.40	78148.09	5	5	6.47E+07	1.59E−02
			1280.135	0	78116.74	1	3	2.88E+07	2.12E−02
			1279.890	16.40	78148.09	3	5	2.15E+07	8.82E−03
C I	$2s^22p^2-2s^22p3d$	^{3}P–^{3}D^o	*1277.463*	*29.58*	*78309.76*	9	15	2.62E+08	1.07E−01
			1277.954	43.40	78293.49	5	3	7.28E+06	1.07E−03
			1277.723	43.40	78307.63	5	5	6.58E+07	1.61E−02
			1277.550	43.40	78318.25	5	7	2.63E+08	9.00E−02
			1277.513	16.40	78293.49	3	3	1.09E+08	2.67E−02
			1277.282	16.40	78307.63	3	5	1.97E+08	8.03E−02
			1277.245	0	78293.49	1	3	1.46E+08	1.07E−01
C I	$2s^22p^2-2s^22p3d$	^{3}P–^{3}P^o	*1261.268*	*29.58*	*79314.86*	9	9	1.62E+08	3.87E−02
			1261.552	43.40	79310.85	5	5	1.22E+08	2.90E−02
			1261.426	43.40	79318.78	5	3	6.76E+07	9.67E−03
			1261.122	16.40	79310.85	3	5	4.05E+07	1.61E−02
			1260.996	16.40	79318.78	3	3	4.06E+07	9.67E−03
			1260.927	16.40	79323.16	3	1	1.62E+08	1.29E−02
			1260.735	0	79318.78	1	3	5.41E+07	3.87E−02
C I	$2s^22p^2-2s^22p5s$	^{3}P–^{3}P^o	*1194.131*	*29.58*	*83772.50*	9	9	4.91E+07	1.05E−02
			1194.615	43.40	83752.41	5	3	2.06E+07	2.64E−03
			1194.406	16.40	83740.06	3	1	4.92E+07	3.51E−03
			1194.229	16.40	83752.41	3	3	1.23E+07	2.64E−03
			1194.063	43.40	83791.04	5	5	3.70E+07	7.91E−03
			1193.995	0	83752.41	1	3	1.64E+07	1.05E−02
			1193.679	16.40	83791.04	3	5	1.24E+07	4.40E−03
C I	$2s^22p^2-2s^22p4d$	^{3}P–^{3}D^o	*1193.176*	*29.58*	*83839.51*	9	15	1.34E+08	4.75E−02
			1193.649	43.40	83820.13	5	3	3.71E+06	4.75E−04
			1193.393	43.40	83838.08	5	5	3.34E+07	7.13E−03
			1193.264	16.40	83820.13	3	3	5.57E+07	1.19E−02
			1193.240	43.40	83848.83	5	7	1.34E+08	3.99E−02
			1193.031	0	83820.13	1	3	7.44E+07	4.76E−02
			1193.009	16.40	83838.08	3	5	1.00E+08	3.56E−02
C I	$2s^22p^2-2s^22p4d$	^{3}P–^{3}P^o	*1189.345*	*29.58*	*84109.44*	9	9	6.08E+07	1.29E−02
			1189.631	43.40	84103.10	5	5	4.57E+07	9.69E−03
			1189.447	43.40	84116.09	5	3	2.54E+07	3.23E−03
			1189.249	16.40	84103.10	3	5	1.52E+07	5.38E−03
			1189.065	16.40	84116.09	3	3	1.52E+07	3.23E−03
			1188.992	16.40	84121.22	3	1	6.10E+07	4.31E−03
			1188.833	0	84116.09	1	3	2.03E+07	1.29E−02
C I	$2s^22p^2-2s^22p6s$	^{3}P–^{3}P^o	*1158.452*	*29.58*	*86351.65*	9	9	2.77E+07	5.57E−03
			1158.907	43.40	86331.63	5	3	1.16E+07	1.40E−03
			1158.674	16.40	86321.94	3	1	2.77E+07	1.86E−03
			1158.544	16.40	86331.63	3	3	6.91E+06	1.39E−03
			1158.397	43.40	86369.60	5	5	2.08E+07	4.18E−03
			1158.324	0	86331.63	1	3	9.23E+06	5.57E−03
			1158.035	16.40	86369.60	3	5	6.95E+06	2.33E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C I	$2s^2 2p^2 - 2s^2 2p5d$	^{3}P–^{3}D^o	*1157.965*	*29.58*	*86387.94*	9	15	7.28E+07	2.44E−02
			1158.492	43.40	86362.52	5	3	2.02E+06	2.44E−04
			1158.132	43.40	86389.38	5	5	1.82E+07	3.66E−03
			1158.130	16.40	86362.52	3	3	3.03E+07	6.10E−03
			1158.019	43.40	86397.80	5	7	7.28E+07	2.05E−02
			1157.910	0	86362.52	1	3	4.05E+07	2.44E−02
			1157.769	16.40	86389.38	3	5	5.46E+07	1.83E−02
C I	$2s^2 2p^2 - 2s^2 2p5d$	^{3}P–^{3}P^o	*1156.294*	*29.58*	*86512.79*	9	9	3.02E+07	6.05E−03
			1156.560	43.40	86506.70	5	5	2.26E+07	4.53E−03
			1156.389	43.40	86519.47	5	3	1.26E+07	1.51E−03
			1156.199	16.40	86506.70	3	5	7.54E+06	2.52E−03
			1156.028	16.40	86519.47	3	3	7.59E+06	1.52E−03
			1155.979	16.40	86523.16	3	1	3.01E+07	2.01E−03
			1155.809	0	86519.47	1	3	1.01E+07	6.05E−03
C I	$2s^2 2p^2 - 2s^2 2p7s$	^{3}P–^{3}P^o	*1140.150*	*29.58*	*87737.30*	9	9	1.68E+07	3.28E−03
			1140.574	43.40	87718.56	5	3	7.00E+06	8.19E−04
			1140.316	16.40	87711.37	3	1	1.68E+07	1.09E−03
			1140.223	16.40	87718.56	3	3	4.21E+06	8.20E−04
			1140.117	43.40	87753.73	5	5	1.26E+07	2.46E−03
			1140.010	0	87718.56	1	3	5.61E+06	3.28E−03
			1139.766	16.40	87753.73	3	5	4.22E+06	1.37E−03
C I	$2s^2 2p^2 - 2s^2 2p6d$	^{3}P–^{3}D^o	*1139.76*	*29.58*	*87767.4*	9	15	4.34E+07	1.41E−02
			1140.36	43.40	[87735.3]	5	3	1.21E+06	1.41E−04
			1140.01	16.40	[87735.3]	3	3	1.81E+07	3.53E−03
			1139.865	43.40	87773.09	5	5	1.09E+07	2.12E−03
			1139.812	43.40	87777.17	5	7	4.33E+07	1.18E−02
			1139.79	0	[87735.3]	1	3	2.41E+07	1.41E−02
			1139.514	16.40	87773.09	3	5	3.27E+07	1.06E−02
C I	$2s^2 2p^2 - 2s^2 2p6d$	^{3}P–^{3}P^o	*1138.844*	*29.58*	*87837.93*	9	9	1.72E+07	3.34E−03
			1139.093	43.40	87832.54	5	5	1.29E+07	2.51E−03
			1138.946	43.40	87843.91	5	3	7.17E+06	8.37E−04
			1138.743	16.40	87832.54	3	5	4.32E+06	1.40E−03
			1138.595	16.40	87843.91	3	3	4.31E+06	8.37E−04
			1138.557	16.40	[87846.9]	3	1	1.71E+07	1.11E−03
			1138.383	0	87843.91	1	3	5.73E+06	3.34E−03
C I	$2s^2 2p^2 - 2s^2 2p8s$	^{3}P–^{3}P^o	*1129.4528*	*29.58*	*88568.03*	9	9	1.09E+07	2.08E−03
			1129.8712	43.40	88549.06	5	3	4.54E+06	5.21E−04
			1129.5943	16.40	88543.76	3	1	1.09E+07	6.95E−04
			1129.5267	16.40	88549.06	3	3	2.72E+06	5.21E−04
			1129.4221	43.40	88584.26	5	5	8.16E+06	1.56E−03
			1129.3175	0	88549.06	1	3	3.63E+06	2.08E−03
			1129.0777	16.40	88584.26	3	5	2.73E+06	8.69E−04
C I	$2s^2 2p^2 - 2s^2 2p7d$	^{3}P–^{3}D^o	*1129.090*	*29.58*	*88596.5*	9	15	2.77E+07	8.82E−03
			1129.749	43.40	[88558.6]	5	3	7.67E+05	8.81E−05
			1129.405	16.40	[88558.6]	3	3	1.16E+07	2.21E−03
			1129.196	0	[88558.6]	1	3	1.54E+07	8.82E−03
			1129.1607	43.40	88604.75	5	5	6.91E+06	1.32E−03
			1129.135	43.40	[88606.8]	5	7	2.77E+07	7.41E−03
			1128.8166	16.40	88604.75	3	5	2.08E+07	6.62E−03
C I	$2s^2 2p^2 - 2s^2 2p7d$	^{3}P–^{3}P^o	*1128.517*	*29.58*	*88641.4*	9	9	1.07E+07	2.04E−03
			1128.752	43.40	[88636.8]	5	5	8.01E+06	1.53E−03
			1128.627	43.40	[88646.6]	5	3	4.45E+06	5.10E−04
			1128.408	16.40	[88636.8]	3	5	2.67E+06	8.50E−04
			1128.284	16.40	[88646.6]	3	3	2.67E+06	5.10E−04
			1128.252	16.40	[88649.1]	3	1	1.07E+07	6.80E−04
			1128.075	0	[88646.6]	1	3	3.56E+06	2.04E−03
C I	$2s^2 2p^2 - 2s^2 2p9s$	^{3}P–^{3}P^o	*1122.9030*	*29.58*	*89084.46*	9	9	7.41E+06	1.40E−03
			1123.0654	43.40	89085.41	5	3	3.08E+06	3.50E−04
			1122.7727	16.40	89081.62	3	1	7.41E+06	4.67E−04
			1122.7250	16.40	89085.41	3	3	1.85E+06	3.50E−04
			1122.5183	0	89085.41	1	3	2.47E+06	1.40E−03
				43.40		5	5	5.71E+06	1.08E−03
				16.40		3	5	1.89E+06	5.97E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C I	$2s^2 2p^2 - 2s^2 2p 8d$	^{3}P$-^3$D^o	*1122.292*	*29.58*	*89132.9*	9	15	1.87E+07	5.88E−03
			1122.994	43.40	[89091.1]	5	3	5.18E+05	5.88E−05
			1122.653	16.40	[89091.1]	3	3	7.83E+06	1.48E−03
			1122.447	0	[89091.1]	1	3	1.04E+07	5.88E−03
			1122.3438	43.40	89142.66	5	5	4.68E+06	8.83E−04
			1122.328	43.40	[89143.9]	5	7	1.87E+07	4.95E−03
			1122.0038	16.40	89142.66	3	5	1.41E+07	4.42E−03
C I	$2s^2 2p^2 - 2s^2 2p 8d$	^{3}P$-^3$P^o	*1121.878*	*29.58*	*89165.8*	9	9	7.15E+06	1.35E−03
			1122.098	43.40	[89162.2]	5	5	5.35E+06	1.01E−03
			1121.999	43.40	[89170.0]	5	3	2.97E+06	3.36E−04
			1121.758	16.40	[89162.2]	3	5	1.78E+06	5.61E−04
			1121.660	16.40	[89170.0]	3	3	1.78E+06	3.36E−04
			1121.641	16.40	[89171.5]	3	1	7.14E+06	4.49E−04
			1121.453	0	[89170.0]	1	3	2.39E+06	1.35E−03
C I	$2s^2 2p^2 - 2s^2 2p 10s$	^{3}P$-^3$P^o	*1118.2900*	*29.58*	*89451.82*	9	9	5.26E+06	9.87E−04
			1118.4629	43.40	89451.82	5	3	2.19E+06	2.47E−04
			1118.1252	16.40	89451.82	3	3	1.32E+06	2.47E−04
			1117.9202	0	89451.82	1	3	1.76E+06	9.87E−04
				43.40		5	5	4.05E+06	7.60E−04
				16.40		3	5	1.35E+06	4.22E−04
				16.40		3	1	5.41E+06	3.38E−04
C I	$2s^2 2p^2 - 2s^2 2p 9d$	^{3}P$-^3$D^o	*1117.690*	*29.58*	*89499.8*	9	15	1.32E+07	4.13E−03
			1118.408	43.40	[89456.2]	5	3	3.66E+05	4.12E−05
			1118.070	16.40	[89456.2]	3	3	5.55E+06	1.04E−03
			1117.866	0	[89456.2]	1	3	7.35E+06	4.13E−03
			1117.730	43.40	89510.43	5	5	3.30E+06	6.19E−04
			1117.724	43.40	[89510.9]	5	7	1.32E+07	3.47E−03
			1117.393	16.40	89510.43	3	5	9.94E+06	3.10E−03
C I	$2s^2 2p^2 - 2s^2 2p 9d$	^{3}P$-^3$P^o	*1117.408*	*29.58*	*89522.4*	9	9	4.97E+06	9.30E−04
			1117.581	43.40	[89522.4]	5	5	3.72E+06	6.97E−04
			1117.244	16.40	[89522.4]	3	5	1.24E+06	3.87E−04
				16.40		3	3	1.27E+06	2.38E−04
				43.40		5	3	2.12E+06	2.38E−04
				16.40		3	1	5.08E+06	3.17E−04
				0		1	3	1.69E+06	9.51E−04
C I	$2s^2 2p^2 - 2s^2 2p 10d$	^{3}P$-^3$D^o	*1114.43*	*29.58*	*89762*	9	15	9.67E+06	3.00E−03
			1115.17	43.40	[89716]	5	3	2.68E+05	3.00E−05
			1114.83	16.40	[89716]	3	3	4.03E+06	7.50E−04
			1114.63	0	[89716]	1	3	5.37E+06	3.00E−03
			1114.4611	43.40	89772.87	5	5	2.42E+06	4.50E−04
			1114.457	43.40	[89773.2]	5	7	9.67E+06	2.52E−03
			1114.1258	16.40	89772.87	3	5	7.25E+06	2.25E−03
C I	$2s^2 2p^2 - 2s 2p^3$:	^{3}P$-^3$S^o	*945.456*	*29.58*	105798.7	9	3	3.40E+09	1.52E−01
			945.579	43.40	105798.7	5	3	1.89E+09	1.52E−01
			945.338	16.40	105798.7	3	3	1.13E+09	1.52E−01
			945.191	0	105798.7	1	3	3.78E+08	1.52E−01
C II	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$D	*1335.313*	*42.28*	*74931.11*	6	10	2.85E+08	1.27E−01
			1335.708	63.42	74930.10	4	6	2.84E+08	1.14E−01
			1335.663	63.42	74932.62	4	4	4.75E+07	1.27E−02
			1334.532	0	74932.62	2	4	2.38E+08	1.27E−01
C II	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$S	*1036.7909*	*42.28*	96493.74	6	2	2.27E+09	1.22E−01
			1037.0182	63.42	96493.74	4	2	1.53E+09	1.23E−01
			1036.3367	0	96493.74	2	2	7.58E+08	1.22E−01
C II	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$P	*904.0816*	*42.28*	*110651.76*	6	6	4.10E+09	5.03E−01
			904.4801	63.42	110624.17	4	2	1.37E+09	8.39E−02
			904.1416	63.42	110665.56	4	4	3.42E+09	4.19E−01
			903.9616	0	110624.17	2	2	2.74E+09	3.36E−01
			903.6235	0	110665.56	2	4	6.86E+08	1.68E−01
C II	$2s^2 2p - 2s^2 3s$*	^{2}P$^o-^2$S	*858.4032*	*42.28*	116537.65	6	2	3.53E+08	1.30E−02
			858.5590	63.42	116537.65	4	2	2.35E+08	1.30E−02
			858.0918	0	116537.65	2	2	1.18E+08	1.30E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C II	$2s^2 2p - 2s^2 3d$	^{2}P^o – ^{2}D	*687.2482*	*42.28*	*145550.13*	6	10	2.85E+09	3.36E−01
			687.3521	63.42	145549.27	4	4	4.74E+08	3.36E−02
			687.3453	63.42	145550.70	4	6	2.84E+09	3.02E−01
			687.0526	0	145549.27	2	4	2.37E+09	3.36E−01
C II	$2s^2 2p - 2s^2 4s$*	^{2}P^o – ^{2}S	*636.1655*	*42.28*	157234.07	6	2	3.03E+08	6.13E−03
			636.2511	63.42	157234.07	4	2	2.02E+08	6.13E−03
			635.9945	0	157234.07	2	2	1.01E+08	6.14E−03
C II	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*594.9481*	*42.28*	*168124.17*	6	10	1.32E+09	1.17E−01
			595.0245	63.42	168123.74	4	4	2.20E+08	1.17E−02
			595.0219	63.42	168124.45	4	6	1.33E+09	1.06E−01
			594.8000	0	168123.74	2	4	1.10E+09	1.17E−01
C II	$2s^2 2p - 2s^2 5s$	^{2}P^o – ^{2}S	*577.0155*	*42.28*	173347.84	6	2	1.41E+08	2.34E−03
			577.0859	63.42	173347.84	4	2	9.37E+07	2.34E−03
			576.8748	0	173347.84	2	2	4.69E+07	2.34E−03
C II	$2s^2 2p - 2s^2 5d$	^{2}P^o – ^{2}D	*560.3710*	*42.28*	*178495.47*	6	10	7.28E+08	5.71E−02
			560.4386	63.42	178495.11	4	4	1.21E+08	5.71E−03
			560.4367	63.42	178495.71	4	6	7.28E+08	5.14E−02
			560.2394	0	178495.11	2	4	6.07E+08	5.71E−02
C II	$2s^2 2p - 2s^2 6s$	^{2}P^o – ^{2}S	*551.8095*	*42.28*	181264.24	6	2	7.36E+07	1.12E−03
			551.8739	63.42	181264.24	4	2	4.91E+07	1.12E−03
			551.6808	0	181264.24	2	2	2.45E+07	1.12E−03
C II	$2s^2 2p - 2s2p(^3$P$^o)3p$	^{2}P^o – ^{2}P	*549.4668*	*42.28*	*182036.89*	6	6	4.02E+08	1.82E−02
			549.5700	63.42	182023.86	4	2	1.34E+08	3.03E−03
			549.5110	63.42	182043.41	4	4	3.34E+08	1.51E−02
			549.3785	0	182023.86	2	2	2.67E+08	1.21E−02
			549.3195	0	182043.41	2	4	6.70E+07	6.06E−03
C II	$2s^2 2p - 2s^2 6d$	^{2}P^o – ^{2}D	*543.3816*	*42.28*	*184075.00*	6	10	4.73E+08	3.49E−02
			543.4453	63.42	184074.59	4	4	7.88E+07	3.49E−03
			543.4432	63.42	184075.28	4	6	4.74E+08	3.15E−02
			543.2580	0	184074.59	2	4	3.94E+08	3.49E−02
C II	$2s^2 2p - 2s^2 7s$	^{2}P^o – ^{2}S	*538.5301*	*42.28*	185732.93	6	2	4.17E+07	6.04E−04
			538.5914	63.42	185732.93	4	2	2.78E+07	6.04E−04
			538.4075	0	185732.93	2	2	1.39E+07	6.05E−04
C II	$2s^2 2p - 2s2p(^3$P$^o)3p$	^{2}P^o – ^{2}D	*530.3372*	*42.28*	*188601.54*	6	10	5.15E+08	3.62E−02
			530.4538	63.42	188581.25	4	4	8.58E+07	3.62E−03
			530.3587	63.42	188615.07	4	6	5.14E+08	3.25E−02
			530.2754	0	188581.25	2	4	4.29E+08	3.62E−02
C II	$2s^2 2p - 2s2p(^3$P$^o)4p$	^{2}P^o – ^{2}P	*466.4633*	*42.28*	*214421.41*	6	6	2.72E+08	8.88E−03
			466.5465	63.42	214404.33	4	2	9.07E+07	1.48E−03
			466.4907	63.42	214429.95	4	4	2.27E+08	7.40E−03
			466.4085	0	214404.33	2	2	1.82E+08	5.92E−03
			466.3528	0	214429.95	2	4	4.55E+07	2.97E−03
C II	$2s^2 2p - 2s2p(^3$P$^o)5p$	^{2}P^o – ^{2}P	*438.8725*	*42.28*	*227898.88*	6	6	1.34E+08	3.86E−03
			438.9473	63.42	227881.21	4	2	4.45E+07	6.43E−04
			438.8962	63.42	227907.71	4	4	1.11E+08	3.22E−03
			438.8251	0	227881.21	2	2	8.90E+07	2.57E−03
			438.7741	0	227907.71	2	4	2.22E+07	1.28E−03
C III	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	977.0201	0	102352.04	1	3	1.79E+09	7.67E−01
C III	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	386.2028	0	258931.29	1	3	3.46E+09	2.32E−01
C III	$2s^2 - 2s4p$:	^{1}S – ^{1}P^o	322.5741	0	310006.32	1	3	9.66E+08	4.52E−02
C III	$2s^2 - 2p3s$:	^{1}S – ^{1}P^o	310.1697	0	322404.20	1	3	6.56E+08	2.84E−02
C III	$2s^2 - 2s5p$	^{1}S – ^{1}P^o	291.3260	0	343258.03	1	3	1.18E+09	4.51E−02
C III	$2s^2 - 2p3d$	^{1}S – ^{1}P^o	288.4232	0	346712.73	1	3	8.69E+07	3.25E−03
C III	$2s^2 - 2s6p$	^{1}S – ^{1}P^o	280.0260	0	357109.68	1	3	4.65E+08	1.64E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C III	$2s^2-2s7p$	^{1}S$-^1$P^o	274.051	0	364896	1	3	3.35E+08	1.13E−02
C III	$2s^2-2s8p$	^{1}S$-^1$P^o	270.324	0	369926	1	3	2.35E+08	7.72E−03
C IV	$1s^22s-1s^22p$	^{2}S$-^2$P^o	*1549.0524*	0	*64555.596*	2	6	2.64E+08	2.85E−01
			1550.7700	0	64484.095	2	2	2.64E+08	9.52E−02
			1548.1950	0	64591.347	2	4	2.64E+08	1.90E−01
C IV	$1s^22s-1s^23p$	^{2}S$-^2$P^o	*312.4305*	0	*320071.2*	2	6	4.62E+09	2.03E−01
			312.4511	0	320050.1	2	2	4.63E+09	6.78E−02
			312.4202	0	320081.7	2	4	4.61E+09	1.35E−01
C IV	$1s^22s-1s^24p$	^{2}S$-^2$P^o	*244.9061*	0	*408319.8*	2	6	2.26E+09	6.11E−02
			244.9113	0	408311.1	2	2	2.26E+09	2.03E−02
			244.9034	0	408324.2	2	4	2.26E+09	4.07E−02
C IV	$1s^22s-1s^25p$	^{2}S$-^2$P^o	*222.7864*	0	*448860.5*	2	6	1.21E+09	2.70E−02
			222.7887	0	448855.8	2	2	1.21E+09	9.03E−03
			222.7852	0	448862.9	2	4	1.21E+09	1.80E−02
C IV	$1s^22s-1s^26p$	^{2}S$-^2$P^o	*212.4145*	0	*470777.6*	2	6	7.15E+08	1.45E−02
			212.4157	0	470775.0	2	2	7.14E+08	4.83E−03
			212.4139	0	470778.9	2	4	7.15E+08	9.68E−03
C IV	$1s^22s-1s^27p$	^{2}S$-^2$P^o	*206.6329*	0	*483950.0*	2	6	4.54E+08	8.71E−03
			206.6336	0	[483948.4]	2	2	4.53E+08	2.90E−03
			206.6326	0	[483950.8]	2	4	4.54E+08	5.81E−03
C IV	$1s^22s-1s^28p$	^{2}S$-^2$P^o	*203.0544*	0	*492478.8*	2	6	3.05E+08	5.66E−03
			203.0549	0	[492477.7]	2	2	3.04E+08	1.88E−03
			203.0542	0	[492479.3]	2	4	3.05E+08	3.77E−03
C IV	$1s^22s-1s^29p$	^{2}S$-^2$P^o	*200.6761*	0	*498315.3*	2	6	2.15E+08	3.90E−03
			200.6764	0	[498314.6]	2	2	2.15E+08	1.30E−03
			200.6760	0	[498315.7]	2	4	2.15E+08	2.60E−03
C IV	$1s^22s-1s^210p$	^{2}S$-^2$P^o	*199.040*	0	*502412*	2	6	1.57E+08	2.80E−03
			199.040	0	502412	2	4	1.57E+08	1.87E−03
			199.040	0	502412	2	2	1.57E+08	9.34E−04
C V	$1s^2-1s2p$	^{1}S$-^1$P^o	40.2678	0	2483372.8	1	3	8.89E+11	6.48E−01
C V	$1s^2-1s3p$	^{1}S$-^1$P^o	34.9728	0	2859368.6	1	3	2.56E+11	1.41E−01
C V	$1s^2-1s4p$	^{1}S$-^1$P^o	33.4262	0	2991662.4	1	3	1.07E+11	5.36E−02
C V	$1s^2-1s5p$	^{1}S$-^1$P^o	32.7542	0	3053041.3	1	3	5.41E+10	2.61E−02
C V	$1s^2-1s6p$	^{1}S$-^1$P^o	32.3998	0	3086438.8	1	3	3.13E+10	1.48E−02
C V	$1s^2-1s7p$	^{1}S$-^1$P^o	32.1901	0	[3106541]	1	3	1.97E+10	9.17E−03
C V	$1s^2-1s8p$	^{1}S$-^1$P^o	32.0552	0	[3119619]	1	3	1.32E+10	6.09E−03
C VI	$1s-2p$	^{2}S$-^2$P^o	*33.7360*	0	*2964194.69*	2	6	8.13E+11	4.16E−01
			33.7396	0	[2963878.05]	2	2	8.14E+11	1.39E−01
			33.7342	0	[2964353.01]	2	4	8.12E+11	2.77E−01
C VI	$1s-3p$	^{2}S$-^2$P^o	*28.4656*	0	*3513015.45*	2	6	2.17E+11	7.90E−02
			28.4663	0	[3512921.62]	2	2	2.16E+11	2.63E−02
			28.4652	0	[3513062.36]	2	4	2.17E+11	5.27E−02
C VI	$1s-4p$	^{2}S$-^2$P^o	*26.9898*	0	*3705107.15*	2	6	8.85E+10	2.90E−02
			26.9901	0	[3705067.57]	2	2	8.85E+10	9.67E−03
			26.9896	0	[3705126.94]	2	4	8.84E+10	1.93E−02
C VI	$1s-5p$	^{2}S$-^2$P^o	*26.3573*	0	*3794015.71*	2	6	4.45E+10	1.39E−02
			26.3574	0	[3793995.44]	2	2	4.46E+10	4.65E−03
			26.3572	0	[3794025.84]	2	4	4.46E+10	9.30E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
C VI	$1s-6p$	^{2}S$-^2$P^o	*26.0260*	0	*3842310.23*	2	6	2.56E+10	7.80E−03
			26.0261	0	[3842298.50]	2	2	2.56E+10	2.60E−03
			26.0260	0	[3842316.09]	2	4	2.56E+10	5.20E−03
C VI	$1s-7p$	^{2}S$-^2$P^o	*25.8303*	0	*3871429.52*	2	6	1.61E+10	4.82E−03
			25.8303	0	[3871422.13]	2	2	1.60E+10	1.60E−03
			25.8302	0	[3871433.21]	2	4	1.60E+10	3.21E−03
C VI	$1s-8p$	^{2}S$-^2$P^o	*25.7048*	0	*3890328.63*	2	6	1.07E+10	3.19E−03
			25.7048	0	[3890331.10]	2	4	1.07E+10	2.12E−03
			25.7048	0	[3890323.68]	2	2	1.07E+10	1.06E−03
C VI	$1s-9p$	^{2}S$-^2$P^o	*25.6194*	0	*3903285.55*	2	6	7.52E+09	2.22E−03
			25.6195	0	[3903282.08]	2	2	7.50E+09	7.38E−04
			25.6194	0	[3903287.29]	2	4	7.52E+09	1.48E−03
C VI	$1s-10p$	^{2}S$-^2$P^o	*25.5588*	0	*3912553.41*	2	6	5.45E+09	1.60E−03
			25.5588	0	[3912550.88]	2	2	5.46E+09	5.35E−04
			25.5587	0	[3912554.68]	2	4	5.46E+09	1.07E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})3s$	^{4}S$^o-^4$P	*1199.9674*	0	*83335.598*	4	12	5.02E+08	3.25E−01
			1200.7098	0	83284.070	4	2	5.01E+08	5.41E−02
			1200.2233	0	83317.830	4	4	5.00E+08	1.08E−01
			1199.5496	0	83364.620	4	6	5.04E+08	1.63E−01
N I	$2s^2 2p^3-2s2p^4$	^{4}S$^o-^4$P	*1134.6559*	0	*88132.448*	4	12	3.99E+07	2.31E−02
			1134.9803	0	88107.260	4	6	4.00E+07	1.16E−02
			1134.4149	0	88151.170	4	4	3.99E+07	7.70E−03
			1134.1653	0	88170.570	4	2	3.99E+07	3.85E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})4s$	^{4}S$^o-^4$P	*964.3771*	0	*103693.88*	4	12	7.51E+07	3.14E−02
			965.0413	0	103622.51	4	2	7.48E+07	5.22E−03
			964.6256	0	103667.16	4	4	7.53E+07	1.05E−02
			963.9903	0	103735.48	4	6	7.51E+07	1.57E−02
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})3d$	^{4}S$^o-^4$P	*953.7724*	0	*104846.82*	4	12	1.69E+08	6.93E−02
			953.9699	0	104825.110	4	6	1.70E+08	3.47E−02
			953.6549	0	104859.73	4	4	1.69E+08	2.31E−02
			953.4152	0	104886.10	4	2	1.70E+08	1.16E−02
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})5s$	^{4}S$^o-^4$P	*910.0489*	0	*109884.209*	4	12	3.57E+07	1.33E−02
			910.6454	0	109812.233	4	2	3.57E+07	2.22E−03
			910.2782	0	109856.520	4	4	3.58E+07	4.45E−03
			909.6974	0	109926.661	4	6	3.58E+07	6.67E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})4d$	^{4}S$^o-^4$P	*906.4877*	0	*110315.896*	4	12	9.04E+07	3.34E−02
			906.6185	0	110299.974	4	6	9.03E+07	1.67E−02
			906.4316	0	110322.721	4	4	9.01E+07	1.11E−02
			906.2074	0	110350.014	4	2	9.05E+07	5.57E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})6s$	^{4}S$^o-^4$P	*887.7987*	0	*112638.144*	4	12	1.86E+07	6.58E−03
			888.3719	0	112565.470	4	2	1.86E+07	1.10E−03
			888.0237	0	112609.612	4	4	1.85E+07	2.19E−03
			887.4580	0	112681.389	4	6	1.85E+07	3.28E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})5d$	^{4}S$^o-^4$P	*886.2372*	0	*112836.61*	4	12	5.10E+07	1.80E−02
			886.3326	0	112824.459	4	6	5.09E+07	8.99E−03
			886.2261	0	112838.02	4	4	5.09E+07	5.99E−03
			885.9729	0	112870.27	4	2	5.10E+07	3.00E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})7s$	^{4}S$^o-^4$P	*876.4133*	0	*114101.422*	4	12	1.08E+07	3.74E−03
			876.9879	0	114026.654	4	2	1.08E+07	6.22E−04
			876.6458	0	114071.153	4	4	1.08E+07	1.25E−03
			876.0670	0	114146.525	4	6	1.08E+07	1.87E−03
N I	$2s^2 2p^3-2p^2(^3\mathrm{P})6d$	^{4}S$^o-^4$P	*875.6257*	0	*114204.0*	4	12	3.10E+07	1.07E−02
			875.7212	0	114191.6	4	6	3.09E+07	5.33E−03
			875.6567	0	114200.0	4	4	3.09E+07	3.55E−03
			875.2774	0	114249.5	4	2	3.10E+07	1.78E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N I	$2s^2 2p^3 - 2p^2(^3\mathrm{P})8s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*869.7718*	0	*114972.7*	4	12	6.79E+06	2.31E−03
			870.3675	0	114894.0	4	2	6.80E+06	3.86E−04
			870.0260	0	114939.1	4	4	6.79E+06	7.71E−04
			869.4042	0	115021.3	4	6	6.82E+06	1.16E−03
N I	$2s^2 2p^3 - 2p^2(^3\mathrm{P})7d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*869.4588*	0	*115014.1*	4	12	2.00E+07	6.79E−03
			869.4820	0	115011.0	4	6	2.00E+07	3.40E−03
			869.4238	0	115018.7	4	4	1.99E+07	2.26E−03
				0		4	2	2.03E+07	1.15E−03
N I	$2s^2 2p^3 - 2p^2(^3\mathrm{P})9s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*865.5882*	0	*115528.4*	4	12	4.54E+06	1.53E−03
			866.1796	0	115449.5	4	2	4.55E+06	2.56E−04
			865.8346	0	115495.5	4	4	4.55E+06	5.11E−04
			865.2270	0	115576.6	4	6	4.56E+06	7.68E−04
N I	$2s^2 2p^3 - 2p^2(^3\mathrm{P})10s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*862.7533*	0	*115908.0*	4	12	3.20E+06	1.07E−03
			863.3394	0	115829.3	4	2	3.19E+06	1.78E−04
			862.9877	0	115876.5	4	4	3.20E+06	3.57E−04
			862.4020	0	115955.2	4	6	3.20E+06	5.35E−04
N II	$2s^2 2p^2 - 2s 2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*1085.1277*	*88.89*	*92243.94*	9	15	3.70E+08	1.09E−01
			1085.7096	130.80	92236.46	5	7	3.68E+08	9.11E−02
			1085.5511	130.80	92249.91	5	5	9.23E+07	1.63E−02
			1085.5328	130.80	92251.46	5	3	1.03E+07	1.09E−03
			1084.5841	48.67	92249.91	3	5	2.77E+08	8.14E−02
			1084.5659	48.67	92251.46	3	3	1.54E+08	2.71E−02
			1083.9937	0	92251.46	1	3	2.06E+08	1.09E−01
N II	$2s^2 2p^2 - 2s 2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*916.3408*	*88.89*	*109218.59*	9	9	1.27E+09	1.60E−01
			916.7109	130.80	109216.44	5	3	5.32E+08	4.02E−02
			916.7068	130.80	109216.93	5	5	9.60E+08	1.21E−01
			916.0213	48.67	109216.44	3	3	3.20E+08	4.02E−02
			916.0172	48.67	109216.93	3	5	3.19E+08	6.69E−02
			915.8795	48.67	109233.34	3	1	1.28E+09	5.36E−02
			915.6131	0	109216.44	1	3	4.24E+08	1.60E−01
N II	$2s^2 2p^2 - 2s^2 2p 3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*671.4865*	*88.89*	*149012.21*	9	9	1.13E+09	7.66E−02
			672.0016	130.80	148939.97	5	3	4.73E+08	1.92E−02
			671.7734	48.67	148908.39	3	1	1.14E+09	2.56E−02
			671.6309	48.67	148939.97	3	3	2.82E+08	1.91E−02
			671.4114	0	148939.97	1	3	3.78E+08	7.66E−02
			671.3864	130.80	149076.32	5	5	8.51E+08	5.75E−02
			671.0164	48.67	149076.32	3	5	2.84E+08	3.20E−02
N II	$2s^2 2p^2 - 2s 2p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*645.0045*	*88.89*	155126.56	9	3	1.08E+10	2.24E−01
			645.1789	130.80	155126.56	5	3	5.98E+09	2.24E−01
			644.8372	48.67	155126.56	3	3	3.59E+09	2.24E−01
			644.6349	0	155126.56	1	3	1.20E+09	2.24E−01
N II	$2s^2 2p^2 - 2s^2 2p 3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*533.6697*	*88.89*	*187470.72*	9	15	4.20E+09	2.99E−01
			533.8841	130.80	187437.36	5	3	1.17E+08	2.99E−03
			533.8157	130.80	187461.36	5	5	1.05E+09	4.48E−02
			533.7293	130.80	187491.70	5	7	4.20E+09	2.51E−01
			533.6501	48.67	187437.36	3	3	1.75E+09	7.48E−02
			533.5818	48.67	187461.36	3	5	3.15E+09	2.24E−01
			533.5116	0	187437.36	1	3	2.34E+09	2.99E−01
N II	$2s^2 2p^2 - 2s^2 2p 3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*529.6767*	*88.89*	*188883.31*	9	9	2.45E+09	1.03E−01
			529.8677	130.80	188857.17	5	5	1.83E+09	7.71E−02
			529.7223	130.80	188908.97	5	3	1.02E+09	2.57E−02
			529.6372	48.67	188857.17	3	5	6.12E+08	4.29E−02
			529.4919	48.67	188908.97	3	3	6.11E+08	2.57E−02
			529.4132	48.67	188937.04	3	1	2.45E+09	3.43E−02
			529.3555	0	188908.97	1	3	8.17E+08	1.03E−01
N II	$2s^2 2p^2 - 2s^2 2p 4s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*508.7412*	*88.89*	*196652.48*	9	9	2.71E+08	1.05E−02
			509.0067	130.80	196591.87	5	3	1.12E+08	2.61E−03
			508.9282	48.67	196540.03	3	1	2.69E+08	3.48E−03
			508.7940	48.67	196591.87	3	3	6.72E+07	2.61E−03
			508.6974	130.80	196711.34	5	5	2.02E+08	7.84E−03
			508.6680	0	196591.87	1	3	9.02E+07	1.05E−02
			508.4849	48.67	196711.34	3	5	6.73E+07	4.35E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N II	$2s^2 2p^2 - 2s^2 2p4d$	^{3}P–^{3}D^o	*475.7638*	*88.89*	*210277.23*	9	15	2.10E+09	1.19E−01
			475.9438	130.80	210239.63	5	3	5.84E+07	1.19E−03
			475.8845	130.80	210265.84	5	5	5.24E+08	1.78E−02
			475.8038	130.80	210301.48	5	7	2.10E+09	9.97E−02
			475.7579	48.67	210239.63	3	3	8.72E+08	2.96E−02
			475.6985	48.67	210265.84	3	5	1.58E+09	8.91E−02
			475.6477	0	210239.63	1	3	1.17E+09	1.19E−01
N II	$2s^2 2p^2 - 2s^2 2p4d$	^{3}P–^{3}P^o	*474.7448*	*88.89*	*210728.36*	9	9	1.29E+09	4.35E−02
			474.8919	130.80	210705.06	5	5	9.64E+08	3.26E−02
			474.7877	130.80	210751.23	5	3	5.38E+08	1.09E−02
			474.7067	48.67	210705.06	3	5	3.21E+08	1.81E−02
			474.6027	48.67	210751.23	3	3	3.23E+08	1.09E−02
			474.5463	48.67	210776.25	3	1	1.29E+09	1.45E−02
			474.4931	0	210751.23	1	3	4.31E+08	4.36E−02
N II	$2s^2 2p^2 - 2s^2 2p5s$	^{3}P–^{3}P^o	*466.7798*	*88.89*	*214322.65*	9	9	1.11E+08	3.64E−03
			467.0132	130.80	214257.49	5	3	4.63E+07	9.09E−04
			466.9339	48.67	214211.76	3	1	1.11E+08	1.21E−03
			466.8342	48.67	214257.49	3	3	2.79E+07	9.10E−04
			466.7376	130.80	214383.93	5	5	8.36E+07	2.73E−03
			466.7281	0	214257.49	1	3	3.72E+07	3.64E−03
			466.5588	48.67	214383.93	3	5	2.79E+07	1.52E−03
N II	$2s^2 2p^2 - 2s^2 2p5d$	^{3}P–^{3}D^o	*453.3161*	*88.89*	*220685.51*	9	15	1.22E+09	6.25E−02
			453.4964	130.80	220639.70	5	3	3.38E+07	6.25E−04
			453.4257	130.80	220674.08	5	5	3.04E+08	9.36E−03
			453.3451	130.80	220713.31	5	7	1.22E+09	5.25E−02
			453.3276	48.67	220639.70	3	3	5.06E+08	1.56E−02
			453.2569	48.67	220674.08	3	5	9.12E+08	4.68E−02
			453.2276	0	220639.70	1	3	6.75E+08	6.24E−02
N II	$2s^2 2p^2 - 2s^2 2p5d$	^{3}P–^{3}P^o	*452.8596*	*88.89*	*220907.87*	9	9	7.22E+08	2.22E−02
			452.9846	130.80	220888.87	5	5	5.43E+08	1.67E−02
			452.9076	130.80	220926.41	5	3	3.01E+08	5.55E−03
			452.8161	48.67	220888.87	3	5	1.81E+08	9.25E−03
			452.7391	48.67	220926.41	3	3	1.81E+08	5.56E−03
			452.6964	48.67	220947.27	3	1	7.24E+08	7.41E−03
			452.6394	0	220926.41	1	3	2.41E+08	2.22E−02
N II	$2s^2 2p^2 - 2s^2 2p6s$	^{3}P–^{3}P^o	*448.9836*	*88.89*	*222814.20*	9	9	5.23E+07	1.58E−03
			449.2097	130.80	222743.96	5	3	2.17E+07	3.93E−04
			449.1228	48.67	222704.94	3	1	5.21E+07	5.25E−04
			449.0441	48.67	222743.96	3	3	1.30E+07	3.94E−04
			448.9460	0	222743.96	1	3	1.74E+07	1.58E−03
			448.9390	130.80	222878.19	5	5	3.91E+07	1.18E−03
			448.7736	48.67	222878.19	3	5	1.31E+07	6.57E−04
N II	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	^{3}P–^{3}S^o	*448.4709*	*88.89*	223068.82	9	3	2.56E+08	2.57E−03
			448.5552	130.80	223068.82	5	3	1.42E+08	2.57E−03
			448.3900	48.67	223068.82	3	3	8.53E+07	2.57E−03
			448.2921	0	223068.82	1	3	2.84E+07	2.57E−03
N II	$2s^2 2p^2 - 2s^2 2p6d$	^{3}P–^{3}D^o	*442.1055*	*88.89*	*226279.2*	9	15	9.44E+08	4.61E−02
			442.3119	130.80	226215.6	5	3	2.61E+07	4.60E−04
			442.1885	130.80	226278.72	5	5	2.36E+08	6.91E−03
			442.1513	48.67	226215.6	3	3	3.92E+08	1.15E−02
			442.1334	130.80	226306.90	5	7	9.43E+08	3.87E−02
			442.0562	0	226215.6	1	3	5.25E+08	4.61E−02
			442.0279	48.67	226278.72	3	5	7.09E+08	3.46E−02
N II	$2s^2 2p^2 - 2s^2 2p6d$	^{3}P–^{3}P^o	*441.8122*	*88.89*	*226429.4*	9	9	4.65E+08	1.36E−02
			441.9227	130.80	226414.7	5	5	3.48E+08	1.02E−02
			441.8649	130.80	226444.3	5	3	1.93E+08	3.39E−03
			441.7624	48.67	226414.7	3	5	1.16E+08	5.65E−03
			441.7046	48.67	226444.3	3	3	1.16E+08	3.39E−03
			441.6771	48.67	226458.4	3	1	4.64E+08	4.52E−03
			441.6097	0	226444.3	1	3	1.55E+08	1.36E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N II	$2s^2 2p^2 - 2s^2 2p 7s$	^{3}P–^{3}P^o	*439.6440*	*88.89*	*227545.65*	9	9	2.31E+07	6.70E−04
			439.8658	130.80	227472.89	5	3	9.65E+06	1.68E−04
			439.7666	48.67	227442.0	3	1	2.32E+07	2.24E−04
			439.7069	48.67	227472.89	3	3	5.80E+06	1.68E−04
			439.6128	0	227472.89	1	3	7.71E+06	6.70E−04
			439.6006	130.80	227610.04	5	5	1.74E+07	5.03E−04
			439.4419	48.67	227610.04	3	5	5.80E+06	2.80E−04
N II	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 3p$	^{3}P–^{3}D^o	*436.1993*	*88.89*	*229341.92*	9	15	8.03E+08	3.82E−02
			436.3552	130.80	229301.90	5	3	2.23E+07	3.82E−04
			436.3092	130.80	229326.06	5	5	2.01E+08	5.74E−03
			436.2248	130.80	229370.40	5	7	8.04E+08	3.21E−02
			436.1989	48.67	229301.90	3	3	3.35E+08	9.56E−03
			436.1529	48.67	229326.06	3	5	6.04E+08	2.87E−02
			436.1063	0	229301.90	1	3	4.47E+08	3.82E−02
N II	$2s^2 2p^2 - 2s^2 2p 7d$	^{3}P–^{3}P^o	*435.4810*	*88.89*	*229720.1*	9	9	3.76E+08	1.07E−02
			435.5677	130.80	229716.26	5	5	2.81E+08	8.00E−03
			435.5515	130.80	229724.8	5	3	1.56E+08	2.67E−03
			435.4119	48.67	229716.26	3	5	9.39E+07	4.45E−03
			435.3957	48.67	229724.8	3	3	9.39E+07	2.67E−03
			435.3957	48.67	229724.8	3	1	3.76E+08	3.56E−03
			435.3035	0	229724.8	1	3	1.26E+08	1.07E−02
N II	$2s^2 2p^2 - 2s^2 2p 7d$	^{3}P–^{3}D^o	*434.7649*	*88.89*	*230098.25*	9	15	1.19E+08	5.62E−03
			434.9182	130.80	230059.07	5	3	3.30E+06	5.62E−05
			434.8721	130.80	230083.49	5	5	2.97E+07	8.43E−04
			434.7925	130.80	230125.58	5	7	1.19E+08	4.72E−03
			434.7629	48.67	230059.07	3	3	4.98E+07	1.41E−03
			434.7168	48.67	230083.49	3	5	8.94E+07	4.22E−03
			434.6710	0	230059.07	1	3	6.61E+07	5.62E−03
N II	$2s^2 2p^2 - 2s^2 2p 8d$	^{3}P–^{3}D^o	*431.5164*	*88.89*	*231829.8*	9	15	1.83E+08	8.53E−03
			431.8047	130.80	231717.0	5	5	4.58E+07	1.28E−03
			431.6923	130.80	231777.3	5	3	5.09E+06	8.54E−05
			431.6516	48.67	231717.0	3	5	1.37E+08	6.40E−03
			431.5393	48.67	231777.3	3	3	7.66E+07	2.14E−03
			431.4486	0	231777.3	1	3	1.02E+08	8.53E−03
			431.4025	130.80	231932.9	5	7	1.84E+08	7.17E−03
N II	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 3p^*$	^{3}P–^{3}P^o	*431.3965*	*88.89*	*231894.2*	9	9	4.44E+08	1.24E−02
			431.4855	130.80	231888.3	5	3	1.86E+08	3.11E−03
			431.4658	130.80	231898.9	5	5	3.35E+08	9.34E−03
			431.3326	48.67	231888.3	3	3	1.11E+08	3.11E−03
			431.3326	48.67	231888.3	3	1	4.47E+08	4.16E−03
			431.3129	48.67	231898.9	3	5	1.12E+08	5.20E−03
			431.2421	0	231888.3	1	3	1.48E+08	1.24E−02
N II	$2s^2 2p^2 - 2s^2 2p 8d^*$	^{3}P–^{3}P^o	*430.5583*	*88.89*	*232345.5*	9	9	1.83E+07	5.10E−04
			430.6360	130.80	232345.5	5	5	1.38E+07	3.83E−04
			430.4837	48.67	232345.5	3	5	4.60E+06	2.13E−04
				48.67		3	3	4.57E+06	1.27E−04
				130.80		5	3	7.68E+06	1.28E−04
				48.67		3	1	1.83E+07	1.70E−04
				0		1	3	6.12E+06	5.10E−04
N II	$2s^2 2p^2 - 2s^2 2p 9s^*$	^{3}P–^{3}P^o	*429.7892*	*88.89*	*232761.1*	9	9	6.61E+07	1.83E−03
			429.8964	130.80	232745.0	5	3	2.75E+07	4.58E−04
			429.8428	130.80	232774.01	5	5	4.98E+07	1.38E−03
			429.7446	48.67	232745.0	3	3	1.65E+07	4.58E−04
			429.7446	48.67	232745.0	3	1	6.62E+07	6.11E−04
			429.6911	48.67	232774.01	3	5	1.66E+07	7.65E−04
			429.6548	0	232745.0	1	3	2.20E+07	1.83E−03
N II	$2s^2 2p^2 - 2s^2 2p 9d$	^{3}P–^{3}D^o	*428.6758*	*88.89*	*233365.4*	9	15	1.46E+08	6.72E−03
			428.9417	130.80	233262.7	5	3	4.06E+06	6.72E−05
			428.7907	48.67	233262.7	3	3	6.09E+07	1.68E−03
			428.7251	130.80	233380.5	5	5	3.67E+07	1.01E−03
			428.7012	0	233262.7	1	3	8.13E+07	6.72E−03
			428.6916	130.80	233398.7	5	7	1.46E+08	5.65E−03
			428.5742	48.67	233380.5	3	5	1.10E+08	5.05E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N II	$2s^2 2p^2 - 2s^2 2p 9d$	^{3}P$-^3$P^o	*428.5026*	*88.89*	*233459.7*	9	9	7.16E+07	1.97E−03
			428.5831	130.80	233457.8	5	3	2.98E+07	4.92E−04
			428.5768	130.80	233461.2	5	5	5.37E+07	1.48E−03
			428.4323	48.67	233457.8	3	3	1.79E+07	4.92E−04
			428.4323	48.67	233457.8	3	1	7.14E+07	6.55E−04
			428.4260	48.67	233461.2	3	5	1.79E+07	8.20E−04
			428.3429	0	233457.8	1	3	2.39E+07	1.97E−03
N II	$2s^2 2p^2 - 2s^2 2p 10s$	^{3}P$-^3$P^o	*427.9692*	*88.89*	*233750.6*	9	9	2.37E+07	6.51E−04
			428.2178	130.80	233656.8	5	3	9.88E+06	1.63E−04
			428.0673	48.67	233656.8	3	3	5.93E+06	1.63E−04
			427.9781	0	233656.8	1	3	7.90E+06	6.51E−04
			427.9430	130.80	233806.8	5	5	1.78E+07	4.89E−04
			427.7926	48.67	233806.8	3	5	5.95E+06	2.72E−04
				48.67		3	1	2.37E+07	2.17E−04
N II	$2s^2 2p^2 - 2s^2 2p 10d$	^{3}P$-^3$D^o	*426.7544*	*88.89*	*234415.7*	9	15	1.13E+08	5.12E−03
			427.0493	130.80	234295.8	5	3	3.11E+06	5.11E−05
			426.8996	48.67	234295.8	3	3	4.68E+07	1.28E−03
			426.8109	0	234295.8	1	3	6.25E+07	5.12E−03
			426.7797	130.80	234443.7	5	5	2.81E+07	7.67E−04
			426.7736	130.80	234447.1	5	7	1.12E+08	4.30E−03
			426.6302	48.67	234443.7	3	5	8.44E+07	3.84E−03
N II	$2s^2 2p^2 - 2s^2 2p 10d$	^{3}P$-^3$P^o	*426.5947*	*88.89*	*234503.4*	9	9	6.30E+07	1.72E−03
			426.6898	130.80	234493.1	5	5	4.73E+07	1.29E−03
			426.6397	130.80	234520.6	5	3	2.63E+07	4.31E−04
			426.5403	48.67	234493.1	3	5	1.58E+07	7.18E−04
			426.4903	48.67	234520.6	3	3	1.58E+07	4.31E−04
			426.4018	0	234520.6	1	3	2.10E+07	1.72E−03
				48.67		3	1	6.31E+07	5.74E−04
N II	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 4p$	^{3}P$-^3$S^o	*385.5943*	*88.89*	259428.8	9	3	2.69E+08	2.00E−03
			385.6567	130.80	259428.8	5	3	1.49E+08	2.00E−03
			385.5345	48.67	259428.8	3	3	8.97E+07	2.00E−03
			385.4622	0	259428.8	1	3	2.99E+07	2.00E−03
N II	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 5p$	^{3}P$-^3$S^o	*365.0292*	*88.89*	274039.6	9	3	1.55E+08	1.03E−03
			365.0850	130.80	274039.6	5	3	8.59E+07	1.03E−03
			364.9756	48.67	274039.6	3	3	5.16E+07	1.03E−03
			364.9108	0	274039.6	1	3	1.72E+07	1.03E−03
N III	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$D	*990.979*	*116.3*	*101026.6*	6	10	4.97E+08	1.22E−01
			991.577	174.4	101023.9	4	6	4.97E+08	1.10E−01
			991.511	174.4	101030.6	4	4	8.28E+07	1.22E−02
			989.799	0	101030.6	2	4	4.15E+08	1.22E−01
N III	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$S	*764.0118*	*116.3*	131004.3	6	2	2.81E+09	8.20E−02
			764.3513	174.4	131004.3	4	2	1.87E+09	8.19E−02
			763.3337	0	131004.3	2	2	9.39E+08	8.20E−02
N III	$2s^2 2p - 2s 2p^2$	^{2}P$^o-^2$P	*685.7166*	*116.3*	*145949.1*	6	6	5.70E+09	4.02E−01
			686.3357	174.4	145875.7	4	2	1.90E+09	6.70E−02
			685.8174	174.4	145985.8	4	4	4.75E+09	3.35E−01
			685.5151	0	145875.7	2	2	3.80E+09	2.68E−01
			684.9981	0	145985.8	2	4	9.60E+08	1.35E−01
N III	$2s^2 2p - 2s^2 3s$	^{2}P$^o-^2$S	*452.1083*	*116.3*	221302.2	6	2	3.09E+09	3.16E−02
			452.2272	174.4	221302.2	4	2	2.06E+09	3.16E−02
			451.8708	0	221302.2	2	2	1.03E+09	3.16E−02
N III	$2s^2 2p - 2s^2 3d$	^{2}P$^o-^2$D	*374.3559*	*116.3*	*267241.8*	6	10	1.26E+10	4.41E−01
			374.4421	174.4	267238.4	4	4	2.10E+09	4.41E−02
			374.4342	174.4	267244.0	4	6	1.26E+10	3.97E−01
			374.1977	0	267238.4	2	4	1.05E+10	4.41E−01
N III	$2s^2 2p - 2s^2 4s$	^{2}P$^o-^2$S	*332.2631*	*116.3*	301082.6	6	2	1.11E+09	6.14E−03
			332.3273	174.4	301082.6	4	2	7.42E+08	6.14E−03
			332.1348	0	301082.6	2	2	3.71E+08	6.14E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N III	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2P$	*323.5713*	*116.3*	*309167.2*	6	6	3.32E+09	5.21E−02
			323.6698	174.4	309131.2	4	2	1.11E+09	8.69E−03
			323.6133	174.4	309185.2	4	4	2.76E+09	4.34E−02
			323.4872	0	309131.2	2	2	2.22E+09	3.48E−02
			323.4307	0	309185.2	2	4	5.52E+08	1.73E−02
N III	$2s^2 2p - 2s^2 4d$	$^2P^o - ^2D$	*314.8114*	*116.3*	*317766.8*	6	10	7.79E+09	1.93E−01
			314.8879	174.4	317747.7	4	4	1.30E+09	1.93E−02
			314.8564	174.4	317779.5	4	6	7.80E+09	1.74E−01
			314.7151	0	317747.7	2	4	6.53E+09	1.94E−01
N III	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2D$	*311.6089*	*116.3*	*321031.4*	6	10	6.55E+08	1.59E−02
			311.7170	174.4	320978.2	4	4	1.10E+08	1.60E−03
			311.6309	174.4	321066.8	4	6	6.59E+08	1.44E−02
			311.5476	0	320978.2	2	4	5.46E+08	1.59E−02
N III	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2S$	*305.8649*	*116.3*	327058.0	6	2	1.45E+09	6.79E−03
			305.9193	174.4	327058.0	4	2	9.68E+08	6.79E−03
			305.7562	0	327058.0	2	2	4.84E+08	6.79E−03
N III	$2s^2 2p - 2s^2 5s$	$^2P^o - ^2S$	*299.7640*	*116.3*	333712.0	6	2	1.21E+09	5.45E−03
			299.8163	174.4	333712.0	4	2	8.07E+08	5.44E−03
			299.6596	0	333712.0	2	2	4.05E+08	5.45E−03
N III	$2s^2 2p - 2s^2 5d$	$^2P^o - ^2D$	*292.5413*	*116.3*	*341948.4*	6	10	2.26E+09	4.83E−02
			292.5916	174.4	341947.7	4	4	3.76E+08	4.83E−03
			292.5907	174.4	341948.8	4	6	2.26E+09	4.35E−02
			292.4424	0	341947.7	2	4	1.89E+09	4.84E−02
N III	$2s^2 2p - 2s^2 6s$	$^2P^o - ^2S$	*285.9524*	*116.3*	349824.8	6	2	4.67E+08	1.91E−03
			286.0000	174.4	349824.8	4	2	3.11E+08	1.91E−03
			285.8574	0	349824.8	2	2	1.56E+08	1.91E−03
N III	$2s^2 2p - 2s^2 6d$	$^2P^o - ^2D$	*282.1557*	*116.3*	*354530.5*	6	10	1.36E+09	2.71E−02
			282.2020	174.4	354530.5	4	6	1.36E+09	2.44E−02
			282.2020	174.4	354530.5	4	4	2.27E+08	2.71E−03
			282.0632	0	354530.5	2	4	1.14E+09	2.71E−02
N III	$2s^2 2p - 2s^2 7s$	$^2P^o - ^2S$	*278.5268*	*116.3*	359148.1	6	2	2.97E+08	1.15E−03
			278.5719	174.4	359148.1	4	2	1.98E+08	1.15E−03
			278.4367	0	359148.1	2	2	9.89E+07	1.15E−03
N III	$2s^2 2p - 2s^2 7d$	$^2P^o - ^2D$	*276.281*	*116.3*	*362066*	6	10	8.65E+08	1.65E−02
			276.326	174.4	362066	4	6	8.68E+08	1.49E−02
			276.326	174.4	362066	4	4	1.45E+08	1.66E−03
			276.193	0	362066	2	4	7.21E+08	1.65E−02
N III	$2s^2 2p - 2s^2 8s$	$^2P^o - ^2S$	*274.0643*	*116.3*	364994.2	6	2	2.16E+08	8.10E−04
			274.1079	174.4	364994.2	4	2	1.44E+08	8.10E−04
			273.9770	0	364994.2	2	2	7.20E+07	8.10E−04
N III	$2s^2 2p - 2s^2 8d$	$^2P^o - ^2D$	*272.611*	*116.3*	*366940*	6	10	5.92E+08	1.10E−02
			272.654	174.4	366940	4	6	5.93E+08	9.92E−03
			272.654	174.4	366940	4	4	9.87E+07	1.10E−03
			272.524	0	366940	2	4	4.94E+08	1.10E−02
N III	$2s^2 2p - 2s^2 9s$	$^2P^o - ^2S$	*271.1662*	*116.3*	368893.8	6	2	1.73E+08	6.34E−04
			271.2089	174.4	368893.8	4	2	1.15E+08	6.34E−04
			271.0807	0	368893.8	2	2	5.75E+07	6.34E−04
N III	$2s^2 2p - 2s^2 9d$	$^2P^o - ^2D$	*270.159*	*116.3*	*370269*	6	10	4.29E+08	7.82E−03
			270.201	174.4	370269	4	6	4.29E+08	7.04E−03
			270.201	174.4	370269	4	4	7.14E+07	7.82E−04
			270.074	0	370269	2	4	3.58E+08	7.82E−03
N III	$2s^2 2p - 2s^2 10s$	$^2P^o - ^2S$	*269.1568*	*116.3*	371646.9	6	2	1.50E+08	5.43E−04
			269.1989	174.4	371646.9	4	2	1.00E+08	5.43E−04
			269.0726	0	371646.9	2	2	5.01E+07	5.44E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N III	$2s^2 2p - 2s^2 10d$	^{2}P^o – ^{2}D	*268.431*	*116.3*	*372651*	6	10	3.32E+08	5.97E−03
			268.473	174.4	372651	4	6	3.31E+08	5.37E−03
			268.473	174.4	372651	4	4	5.52E+07	5.97E−04
			268.348	0	372651	2	4	2.76E+08	5.97E−03
N III	$2s^2 2p - 2s2p(^3$P$^o)4p$	^{2}P^o – ^{2}P	*266.9022*	*116.3*	*374785.3*	6	6	7.97E+08	8.51E−03
			266.9714	174.4	374746.4	4	2	2.66E+08	1.42E−03
			266.9298	174.4	374804.8	4	4	6.64E+08	7.09E−03
			266.8471	0	374746.4	2	2	5.32E+08	5.68E−03
			266.8055	0	374804.8	2	4	1.33E+08	2.84E−03
N III	$2s^2 2p - 2s2p(^1$P$^o)3p$	^{2}P^o – ^{2}P	*264.9120*	*116.3*	*377600.2*	6	6	1.87E+09	1.97E−02
			264.9684	174.4	377577.9	4	2	6.21E+08	3.27E−03
			264.9449	174.4	377611.3	4	4	1.56E+09	1.64E−02
			264.8460	0	377577.9	2	2	1.25E+09	1.31E−02
			264.8226	0	377611.3	2	4	3.11E+08	6.54E−03
N III	$2s^2 2p - 2s2p(^3$P$^o)5p$	^{2}P^o – ^{2}P	*248.4087*	*116.3*	*402678.6*	6	6	8.87E+08	8.21E−03
			248.4779	174.4	402624.6	4	2	2.96E+08	1.37E−03
			248.4279	174.4	402705.6	4	4	7.39E+08	6.84E−03
			248.3703	0	402624.6	2	2	5.93E+08	5.48E−03
			248.3204	0	402705.6	2	4	1.48E+08	2.74E−03
N III	$2s^2 2p - 2s2p(^3$P$^o)6p$	^{2}P^o – ^{2}P	*238.0737*	*116.3*	*420154.3*	6	6	3.04E+08	2.58E−03
			238.1340	174.4	420106.1	4	2	1.02E+08	4.32E−04
			238.0930	174.4	420178.4	4	4	2.53E+08	2.15E−03
			238.0351	0	420106.1	2	2	2.02E+08	1.72E−03
			237.9941	0	420178.4	2	4	5.08E+07	8.63E−04
N III	$2s^2 2p - 2s2p(^3$P$^o)7p$	^{2}P^o – ^{2}P	*233.6706*	*116.3*	*428069.0*	6	6	2.53E+08	2.07E−03
			233.7152	174.4	428045.5	4	2	8.43E+07	3.45E−04
			233.6960	174.4	428080.8	4	4	2.10E+08	1.72E−03
			233.6200	0	428045.5	2	2	1.69E+08	1.38E−03
			233.6008	0	428080.8	2	4	4.22E+07	6.91E−04
N III	$2s^2 2p - 2s2p(^3$P$^o)8p$	^{2}P^o – ^{2}P	*230.8370*	*116.3*	*433322.5*	6	6	1.70E+08	1.36E−03
			230.8819	174.4	433296.2	4	2	5.68E+07	2.27E−04
			230.8609	174.4	433335.6	4	4	1.41E+08	1.13E−03
			230.7890	0	433296.2	2	2	1.13E+08	9.06E−04
			230.7680	0	433335.6	2	4	2.84E+07	4.53E−04
N IV	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	765.1467	0	130693.9	1	3	2.34E+09	6.16E−01
N IV	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	247.2051	0	404522.4	1	3	1.19E+10	3.27E−01
N IV	$2s^2 - 2p3s$	^{1}S – ^{1}P^o	211.4034	0	473029.3	1	3	2.25E+08	4.52E−03
N IV	$2s^2 - 2s4p$	^{1}S – ^{1}P^o	197.2278	0	507027.9	1	3	6.00E+09	1.05E−01
N IV	$2s^2 - 2p3d$	^{1}S – ^{1}P^o	192.8229	0	518610.5	1	3	3.58E+08	5.98E−03
N IV	$2s^2 - 2s5p$	^{1}S – ^{1}P^o	181.7413	0	550232.6	1	3	2.81E+09	4.17E−02
N IV	$2s^2 - 2s6p$	^{1}S – ^{1}P^o	174.6020	0	572731.1	1	3	1.69E+09	2.32E−02
N IV	$2s^2 - 2p4s$	^{1}S – ^{1}P^o	172.1711	0	580817.5	1	3	5.87E+06	7.82E−05
N IV	$2s^2 - 2s7p$	^{1}S – ^{1}P^o	170.0740	0	587979.4	1	3	1.01E+09	1.31E−02
N IV	$2s^2 - 2s8p$	^{1}S – ^{1}P^o	167.7090	0	596270.9	1	3	1.02E+09	1.29E−02
N IV	$2s^2 - 2p4d$	^{1}S – ^{1}P^o	167.0737	0	598538.2	1	3	4.24E+08	5.32E−03
N IV	$2s^2 - 2s9p$	^{1}S – ^{1}P^o	165.9450	0	602609.3	1	3	3.30E+08	4.09E−03
N IV	$2s^2 - 2s10p$	^{1}S – ^{1}P^o	164.7940	0	606818.2	1	3	3.24E+08	3.96E−03
N V	$1s^2 2s - 1s^2 2p$	^{2}S – ^{2}P^o	*1240.15*	0	*80635.7*	2	6	3.40E+08	2.35E−01
			1242.80	0	80463.2	2	2	3.37E+08	7.80E−02
			1238.82	0	80721.9	2	4	3.41E+08	1.57E−01

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N V	$1s^2 2s - 1s^2 3p$	^{2}S$-^2$P^o	*209.2853*	0	*477816.6*	2	6	1.21E+10	2.38E−01
			209.3076	0	477765.7	2	2	1.21E+10	7.96E−02
			209.2742	0	477842.0	2	4	1.21E+10	1.59E−01
N V	$1s^2 2s - 1s^2 4p$	^{2}S$-^2$P^o	*162.5586*	0	*615162.9*	2	6	5.77E+09	6.86E−02
			162.5644	0	615141.0	2	2	5.75E+09	2.28E−02
			162.5557	0	615173.8	2	4	5.77E+09	4.57E−02
N V	$1s^2 2s - 1s^2 5p$	^{2}S$-^2$P^o	*147.4250*	0	*678311.1*	2	6	3.07E+09	3.00E−02
			147.4273	0	678300.4	2	2	3.07E+09	9.99E−03
			147.4238	0	678316.5	2	4	3.07E+09	2.00E−02
N V	$1s^2 2s - 1s^2 6p$	^{2}S$-^2$P^o	*140.3569*	0	*712469.5*	2	6	1.79E+09	1.59E−02
			140.3581	0	712463.2	2	2	1.80E+09	5.31E−03
			140.3563	0	712472.6	2	4	1.79E+09	1.06E−02
N V	$1s^2 2s - 1s^2 7p$	^{2}S$-^2$P^o	*136.4243*	0	*733007.2*	2	6	1.14E+09	9.56E−03
			136.4250	0	[733003.3]	2	2	1.14E+09	3.18E−03
			136.4239	0	[733009.2]	2	4	1.14E+09	6.38E−03
N V	$1s^2 2s - 1s^2 8p$	^{2}S$-^2$P^o	*133.9928*	0	*746308.6*	2	6	7.68E+08	6.20E−03
			133.9933	0	[746306.0]	2	2	7.69E+08	2.07E−03
			133.9926	0	[746309.9]	2	4	7.67E+08	4.13E−03
N V	$1s^2 2s - 1s^2 9p$	^{2}S$-^2$P^o	*132.3779*	0	*755413.4*	2	6	5.39E+08	4.25E−03
			132.3782	0	[755411.5]	2	2	5.40E+08	1.42E−03
			132.3777	0	[755414.3]	2	4	5.39E+08	2.83E−03
N V	$1s^2 2s - 1s^2 10p$	^{2}S$-^2$P^o	*131.2478*	0	*761917.6*	2	6	3.94E+08	3.05E−03
			131.2480	0	[761916.3]	2	2	3.95E+08	1.02E−03
			131.2477	0	[761918.3]	2	4	3.93E+08	2.03E−03
N VI	$1s^2 - 1s2p$	^{1}S$-^1$P^o	28.787	0	3473800	1	3	1.81E+12	6.75E−01
N VI	$1s^2 - 1s3p$	^{1}S$-^1$P^o	24.900	0	4016000	1	3	5.16E+11	1.44E−01
N VI	$1s^2 - 1s4p$	^{1}S$-^1$P^o	23.771	0	4206800	1	3	2.15E+11	5.46E−02
N VII	$1s - 2p$	^{2}S$-^2$P^o	*24.7810*	0	*4035348.1*	2	6	1.51E+12	4.16E−01
			24.7846	0	[4034761.2]	2	2	1.51E+12	1.39E−01
			24.7792	0	[4035641.6]	2	4	1.50E+12	2.77E−01
N VII	$1s - 3p$	^{2}S$-^2$P^o	*20.9098*	0	*4782437.4*	2	6	4.02E+11	7.90E−02
			20.9106	0	[4782263.5]	2	2	4.01E+11	2.63E−02
			20.9095	0	[4782524.4]	2	4	4.02E+11	5.27E−02
N VII	$1s - 4p$	^{2}S$-^2$P^o	*19.8258*	0	*5043926.9*	2	6	1.64E+11	2.90E−02
			19.8261	0	[5043853.5]	2	2	1.64E+11	9.67E−03
			19.8257	0	[5043963.5]	2	4	1.64E+11	1.93E−02
N VII	$1s - 5p$	^{2}S$-^2$P^o	*19.3613*	0	*5164954.6*	2	6	8.24E+10	1.39E−02
			19.3614	0	[5164917.0]	2	2	8.27E+10	4.65E−03
			19.3612	0	[5164973.4]	2	4	8.27E+10	9.30E−03
N VII	$1s - 6p$	^{2}S$-^2$P^o	*19.1179*	0	*5230695.3*	2	6	4.74E+10	7.80E−03
			19.1180	0	[5230673.5]	2	2	4.74E+10	2.60E−03
			19.1179	0	[5230706.1]	2	4	4.74E+10	5.20E−03
N VII	$1s - 7p$	^{2}S$-^2$P^o	*18.9741*	0	*5270333.4*	2	6	2.98E+10	4.82E−03
			18.9742	0	[5270319.7]	2	2	2.96E+10	1.60E−03
			18.9741	0	[5270340.2]	2	4	2.97E+10	3.21E−03
N VII	$1s - 8p$	^{2}S$-^2$P^o	*18.8820*	0	*5296059.3*	2	6	1.99E+10	3.19E−03
			18.8820	0	[5296050.1]	2	2	1.98E+10	1.06E−03
			18.8819	0	[5296063.8]	2	4	1.98E+10	2.12E−03
N VII	$1s - 9p$	^{2}S$-^2$P^o	*18.8193*	0	*5313696.4*	2	6	1.39E+10	2.22E−03
			18.8193	0	[5313699.6]	2	4	1.39E+10	1.48E−03
			18.8193	0	[5313689.9]	2	2	1.39E+10	7.38E−04

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
N VII	$1s-10p$	^{2}S$-^2$P^o	*18.7747*	0	*5326311.8*	2	6	1.01E+10	1.60E−03
			18.7747	0	[5326314.2]	2	4	1.01E+10	1.07E−03
			18.7747	0	[5326307.1]	2	2	1.01E+10	5.35E−04
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)3s$	^{3}P$-^3$S^o	*1303.4951*	*77.975*	76794.798	9	3	5.92E+08	5.03E−02
			1306.0317	226.977	76794.798	1	3	6.54E+07	5.02E−02
			1304.8607	158.265	76794.798	3	3	1.97E+08	5.03E−02
			1302.1715	0	76794.798	5	3	3.30E+08	5.04E−02
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)4s$	^{3}P$-^3$S^o	*1040.0732*	*77.975*	96225.049	9	3	1.67E+08	9.04E−03
			1041.6876	226.977	96225.049	1	3	1.85E+07	9.02E−03
			1040.9425	158.265	96225.049	3	3	5.56E+07	9.03E−03
			1039.2304	0	96225.049	5	3	9.31E+07	9.04E−03
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)3d$	^{3}P$-^3$D^o	*1026.5834*	*77.975*	*97488.476*	9	15	7.14E+07	1.88E−02
			1028.1571	226.977	97488.378	1	3	3.95E+07	1.88E−02
			1027.4313	158.265	97488.378	3	3	2.97E+07	4.70E−03
			1027.4305	158.265	97488.448	3	5	5.35E+07	1.41E−02
			1025.7633	0	97488.378	5	3	1.99E+06	1.88E−04
			1025.7626	0	97488.448	5	5	1.79E+07	2.82E−03
			1025.7616	0	97488.538	5	7	7.15E+07	1.58E−02
O I	$2s^22p^4-2p^3(^2\mathrm{D}^o)3s$	^{3}P$-^3$D^o	*989.4576*	*77.975*	*101143.450*	9	15	2.19E+08	5.35E−02
			990.8010	226.977	101155.422	1	3	1.21E+08	5.34E−02
			990.2043	158.265	101147.526	3	5	1.64E+08	4.01E−02
			990.1269	158.265	101155.422	3	3	9.12E+07	1.34E−02
			988.7734	0	101135.407	5	7	2.19E+08	4.49E−02
			988.6549	0	101147.526	5	5	5.48E+07	8.03E−03
			988.5778	0	101155.422	5	3	6.09E+06	5.35E−04
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)5s$	^{3}P$-^3$S^o	*977.1921*	*77.975*	102411.995	9	3	6.85E+07	3.27E−03
			978.6170	226.977	102411.995	1	3	7.57E+06	3.26E−03
			977.9594	158.265	102411.995	3	3	2.27E+07	3.26E−03
			976.4481	0	102411.995	5	3	3.81E+07	3.27E−03
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)4d$	^{3}P$-^3$D^o	*972.4746*	*77.975*	*102908.420*	9	15	6.47E+07	1.53E−02
			973.8852	226.977	102908.489	1	3	3.59E+07	1.53E−02
			973.2343	158.265	102908.443	3	5	4.86E+07	1.15E−02
			973.2339	158.265	102908.489	3	3	2.70E+07	3.84E−03
			971.7382	0	102908.374	5	7	6.56E+07	1.30E−02
			971.7376	0	102908.443	5	5	1.63E+07	2.31E−03
			971.7371	0	102908.489	5	3	1.81E+06	1.54E−04
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)6s$	^{3}P$-^3$S^o	*951.5902*	*77.975*	105165.232	9	3	3.45E+07	1.56E−03
			952.9413	226.977	105165.232	1	3	3.82E+06	1.56E−03
			952.3178	158.265	105165.232	3	3	1.15E+07	1.56E−03
			950.8846	0	105165.232	5	3	1.93E+07	1.57E−03
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)5d$	^{3}P$-^3$D^o	*949.3878*	*77.975*	*105409.008*	9	15	2.78E+07	6.25E−03
			950.7327	226.977	105409.008	1	3	1.53E+07	6.24E−03
			950.1121	158.265	105409.008	3	5	2.07E+07	4.68E−03
			950.1121	158.265	105409.008	3	3	1.15E+07	1.56E−03
			948.6855	0	105409.008	5	7	2.77E+07	5.24E−03
			948.6855	0	105409.008	5	5	6.94E+06	9.37E−04
			948.6855	0	105409.008	5	3	7.72E+05	6.25E−05
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)7s$	^{3}P$-^3$S^o	*938.5269*	*77.975*	106627.934	9	3	1.97E+07	8.66E−04
			939.8412	226.977	106627.934	1	3	2.18E+06	8.65E−04
			939.2346	158.265	106627.934	3	3	6.54E+06	8.65E−04
			937.8405	0	106627.934	5	3	1.10E+07	8.67E−04
O I	$2s^22p^4-2p^3(^4\mathrm{S}^o)6d$	^{3}P$-^3$D^o	*937.3140*	*77.975*	*106765.803*	9	15	1.64E+07	3.60E−03
			938.6249	226.977	106765.803	1	3	9.06E+06	3.59E−03
			938.0200	158.265	106765.803	3	5	1.23E+07	2.70E−03
			938.0200	158.265	106765.803	3	3	6.81E+06	8.99E−04
			936.6295	0	106765.803	5	7	1.64E+07	3.02E−03
			936.6295	0	106765.803	5	5	4.11E+06	5.40E−04
			936.6295	0	106765.803	5	3	4.56E+05	3.60E−05

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)8s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*930.9318*	*77.975*	107497.224	9	3	1.23E+07	5.31E−04
			932.2249	226.977	107497.224	1	3	1.36E+06	5.30E−04
			931.6282	158.265	107497.224	3	3	4.08E+06	5.31E−04
			930.2566	0	107497.224	5	3	6.83E+06	5.32E−04
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)7d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*930.1910*	*77.975*	*107582.777*	9	15	1.05E+07	2.27E−03
			931.4820	226.977	107582.777	1	3	5.82E+06	2.27E−03
			930.8862	158.265	107582.777	3	5	7.85E+06	1.70E−03
			930.8862	158.265	107582.777	3	3	4.36E+06	5.67E−04
			929.5168	0	107582.777	5	7	1.05E+07	1.90E−03
			929.5168	0	107582.777	5	5	2.63E+06	3.41E−04
			929.5168	0	107582.777	5	3	2.92E+05	2.27E−05
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)9s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*926.114*	*77.975*	108056.0	9	3	8.17E+06	3.50E−04
			927.394	226.977	108056.0	1	3	9.02E+05	3.49E−04
			926.804	158.265	108056.0	3	3	2.72E+06	3.50E−04
			925.446	0	108056.0	5	3	4.54E+06	3.50E−04
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)8d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*925.617*	*77.975*	*108114.0*	9	15	7.10E+06	1.52E−03
			926.896	226.977	108114.0	1	3	3.93E+06	1.52E−03
			926.306	158.265	108114.0	3	5	5.36E+06	1.15E−03
			926.306	158.265	108114.0	3	3	2.96E+06	3.81E−04
			924.950	0	108114.0	5	7	7.18E+06	1.29E−03
			924.950	0	108114.0	5	5	1.79E+06	2.29E−04
			924.950	0	108114.0	5	3	1.99E+05	1.53E−05
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)10s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*922.864*	*77.975*	108436.3	9	3	5.69E+06	2.42E−04
			924.135	226.977	108436.3	1	3	6.30E+05	2.42E−04
			923.548	158.265	108436.3	3	3	1.89E+06	2.42E−04
			922.200	0	108436.3	5	3	3.16E+06	2.42E−04
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)9d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*922.520*	*77.975*	*108476.7*	9	15	5.08E+06	1.08E−03
			923.790	226.977	108476.7	1	3	2.79E+06	1.07E−03
			923.204	158.265	108476.7	3	5	3.78E+06	8.05E−04
			923.204	158.265	108476.7	3	3	2.10E+06	2.68E−04
			921.857	0	108476.7	5	7	5.06E+06	9.03E−04
			921.857	0	108476.7	5	5	1.27E+06	1.62E−04
			921.857	0	108476.7	5	3	1.41E+05	1.08E−05
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)11s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*920.577*	*77.975*	108705.5	9	3	4.13E+06	1.75E−04
			921.841	226.977	108705.5	1	3	4.58E+05	1.75E−04
			921.258	158.265	108705.5	3	3	1.38E+06	1.75E−04
			919.917	0	108705.5	5	3	2.31E+06	1.76E−04
O I	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)10d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*920.318*	*77.975*	*108736.1*	9	15	3.70E+06	7.84E−04
			921.581	226.977	108736.1	1	3	2.05E+06	7.83E−04
			920.998	158.265	108736.1	3	5	2.77E+06	5.88E−04
			920.998	158.265	108736.1	3	3	1.54E+06	1.96E−04
			919.658	0	108736.1	5	7	3.71E+06	6.59E−04
			919.658	0	108736.1	5	5	9.31E+05	1.18E−04
			919.658	0	108736.1	5	3	1.03E+05	7.85E−06
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*878.4390*	*77.975*	*113916.277*	9	9	6.78E+08	7.84E−02
			879.5507	226.977	113921.391	1	3	2.25E+08	7.83E−02
			879.1001	158.265	113910.957	3	5	1.69E+08	3.26E−02
			879.0194	158.265	113921.391	3	3	1.69E+08	1.96E−02
			878.9720	158.265	113927.534	3	1	6.76E+08	2.61E−02
			877.8787	0	113910.957	5	5	5.10E+08	5.89E−02
			877.7983	0	113921.391	5	3	2.84E+08	1.97E−02
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*811.3693*	*77.975*	*123326.418*	9	9	2.99E+07	2.95E−03
			812.1594	226.977	123355.512	1	3	9.94E+06	2.95E−03
			812.0936	158.265	123296.777	3	5	7.46E+06	1.23E−03
			811.7064	158.265	123355.512	3	3	7.47E+06	7.38E−04
			811.4968	158.265	123387.339	3	1	2.99E+07	9.83E−04
			811.0512	0	123296.777	5	5	2.25E+07	2.22E−03
			810.6650	0	123355.512	5	3	1.25E+07	7.38E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O I	$2s^2 2p^4 - 2s 2p^5$	^{3}P$-^3$P^o	*792.2276*	*77.975*	*126304.323*	9	9	6.58E+08	6.19E−02
			792.9671	158.265	126266.896	3	5	1.64E+08	2.58E−02
			792.9381	226.977	126340.225	1	3	2.19E+08	6.18E−02
			792.5063	158.265	126340.225	3	3	1.65E+08	1.55E−02
			792.2330	158.265	126383.751	3	1	6.60E+08	2.07E−02
			791.9732	0	126266.896	5	5	4.94E+08	4.65E−02
			791.5136	0	126340.225	5	3	2.75E+08	1.55E−02
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 4d$	^{3}P$-^3$P^o	*769.8421*	*77.975*	*129974.745*	9	9	2.14E+08	1.90E−02
			770.6986	226.977	129979.384	1	3	7.11E+07	1.90E−02
			770.3464	158.265	129970.000	3	5	5.35E+07	7.93E−03
			770.2907	158.265	129979.384	3	3	5.35E+07	4.76E−03
			770.2600	158.265	129984.553	3	1	2.14E+08	6.35E−03
			769.4083	0	129970.000	5	5	1.61E+08	1.43E−02
			769.3528	0	129979.384	5	3	8.96E+07	4.77E−03
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 5d$	^{3}P$-^3$P^o	*756.2292*	*77.975*	*132313.0*	9	9	9.28E+07	7.96E−03
			757.0640	226.977	132316.2	1	3	3.08E+07	7.95E−03
			756.6996	158.265	132311.1	3	5	2.31E+07	3.31E−03
			756.6704	158.265	132316.2	3	3	2.31E+07	1.98E−03
			755.7945	0	132311.1	5	5	6.97E+07	5.97E−03
			755.7654	0	132316.2	5	3	3.87E+07	1.99E−03
				158.265		3	1	9.31E+07	2.66E−03
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 6d$	^{3}P$-^3$P^o	*748.8073*	*77.975*	*133623.7*	9	9	5.29E+07	4.45E−03
			749.6279	226.977	133626.5	1	3	1.76E+07	4.44E−03
			749.2672	158.265	133622.0	3	5	1.32E+07	1.85E−03
			749.2419	158.265	133626.5	3	3	1.32E+07	1.11E−03
			748.3798	0	133622.0	5	5	3.97E+07	3.33E−03
			748.3546	0	133626.5	5	3	2.20E+07	1.11E−03
				158.265		3	1	5.32E+07	1.49E−03
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 7d$	^{3}P$-^3$P^o	*744.3504*	*77.975*	*134423.3*	9	9	3.41E+07	2.83E−03
			745.1591	226.977	134426.5	1	3	1.13E+07	2.83E−03
			744.8061	158.265	134421.4	3	5	8.58E+06	1.19E−03
			744.7778	158.265	134426.5	3	3	8.53E+06	7.09E−04
			743.9292	0	134421.4	5	5	2.57E+07	2.13E−03
			743.9009	0	134426.5	5	3	1.42E+07	7.09E−04
				158.265		3	1	3.42E+07	9.48E−04
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 8d$	^{3}P$-^3$P^o	*741.4709*	*77.975*	*134945.0*	9	9	2.39E+07	1.97E−03
			742.2796	226.977	134947.1	1	3	7.95E+06	1.97E−03
			741.9194	158.265	134943.8	3	5	5.97E+06	8.21E−04
			741.9012	158.265	134947.1	3	3	5.96E+06	4.92E−04
			741.0492	0	134943.8	5	5	1.80E+07	1.48E−03
			741.0311	0	134947.1	5	3	9.98E+06	4.93E−04
				158.265		3	1	2.40E+07	6.59E−04
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 9d$	^{3}P$-^3$P^o	*739.5023*	*77.975*	*135304.1*	9	9	1.78E+07	1.46E−03
			740.3129	226.977	135305.0	1	3	5.88E+06	1.45E−03
			739.9447	158.265	135303.5	3	5	4.42E+06	6.05E−04
			739.9365	158.265	135305.0	3	3	4.42E+06	3.63E−04
			739.0792	0	135303.5	5	5	1.33E+07	1.09E−03
			739.0710	0	135305.0	5	3	7.39E+06	3.63E−04
				158.265		3	1	1.77E+07	4.85E−04
O I	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ) 10d$	^{3}P$-^3$P^o	*738.0998*	*77.975*	*135561.0*	9	9	1.38E+07	1.13E−03
			738.9059	226.977	135562.2	1	3	4.60E+06	1.13E−03
			738.5413	158.265	135560.3	3	5	3.46E+06	4.71E−04
			738.5310	158.265	135562.2	3	3	3.45E+06	2.82E−04
			737.6791	0	135560.3	5	5	1.04E+07	8.48E−04
			737.6688	0	135562.2	5	3	5.76E+06	2.82E−04
				158.265		3	1	1.39E+07	3.78E−04
O II	$2s^2 2p^3 - 2s 2p^4$	^{4}S$^o-^4$P	*833.8019*	0	*119932.56*	4	12	8.51E+08	2.66E−01
			834.4654	0	119837.21	4	6	8.43E+08	1.32E−01
			833.3303	0	120000.43	4	4	8.51E+08	8.86E−02
			832.7583	0	120082.86	4	2	8.54E+08	4.44E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O II	$2s^2 2p^3 - 2p^2(^3P)3s$	$^4S^o - ^4P$	*539.3676*	0	*185402.301*	4	12	9.94E+08	1.30E−01
			539.8540	0	185235.281	4	2	9.93E+08	2.17E−02
			539.5473	0	185340.577	4	4	9.97E+08	4.35E−02
			539.0861	0	185499.124	4	6	9.98E+08	6.52E−02
O II	$2s^2 2p^3 - 2p^2(^3P)3d$	$^4S^o - ^4P$	*430.0882*	0	*232510.427*	4	12	4.46E+09	3.71E−01
			430.1765	0	232462.724	4	6	4.47E+09	1.86E−01
			430.0410	0	232535.949	4	4	4.47E+09	1.24E−01
			429.9180	0	232602.492	4	2	4.46E+09	6.18E−02
O II	$2s^2 2p^3 - 2p^2(^3P)4s$	$^4S^o - ^4P$	*418.7679*	0	*238795.77*	4	12	1.85E+08	1.46E−02
			419.0633	0	238627.46	4	2	1.85E+08	2.44E−03
			418.8786	0	238732.65	4	4	1.86E+08	4.89E−03
			418.5958	0	238893.96	4	6	1.86E+08	7.34E−03
O II	$2s^2 2p^3 - 2p^2(^3P)4d$	$^4S^o - ^4P$	*391.9614*	0	*255127.16*	4	12	2.37E+09	1.64E−01
			391.9954	0	255105.01	4	6	2.38E+09	8.21E−02
			391.9380	0	255142.41	4	4	2.38E+09	5.47E−02
			391.9062	0	255163.08	4	2	2.37E+09	2.73E−02
O II	$2s^2 2p^3 - 2p^2(^3P)5s$	$^4S^o - ^4P$	*387.7996*	0	*257865.16*	4	12	5.60E+07	3.79E−03
			388.0545	0	257695.74	4	2	5.60E+07	6.32E−04
			387.8977	0	257799.93	4	4	5.59E+07	1.26E−03
			387.6493	0	257965.11	4	6	5.59E+07	1.89E−03
O II	$2s^2 2p^3 - 2p^2(^3P)5d$	$^4S^o - ^4P$	*376.7242*	0	*265446.2*	4	12	1.37E+09	8.72E−02
			376.7450	0	265431.5	4	6	1.37E+09	4.36E−02
			376.6930	0	265468.2	4	4	1.36E+09	2.90E−02
				0		4	2	1.38E+09	1.47E−02
O II	$2s^2 2p^3 - 2p^2(^3P)6s$	$^4S^o - ^4P$	*374.7153*	0	*266869.3*	4	12	2.23E+07	1.41E−03
			374.9559	0	266698.0	4	2	2.23E+07	2.35E−04
			374.8098	0	266802.0	4	4	2.23E+07	4.69E−04
			374.5722	0	266971.23	4	6	2.23E+07	7.04E−04
O III	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3D^o$	*834.4920*	*207.823*	*120041.2*	9	15	6.15E+08	1.07E−01
			835.2891	306.174	120025.2	5	7	6.10E+08	8.94E−02
			835.0924	306.174	120053.4	5	5	1.53E+08	1.60E−02
			835.0589	306.174	120058.2	5	3	1.71E+07	1.07E−03
			833.7487	113.178	120053.4	3	5	4.61E+08	8.00E−02
			833.7153	113.178	120058.2	3	3	2.55E+08	2.66E−02
			832.9294	0	120058.2	1	3	3.43E+08	1.07E−01
O III	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3P^o$	*703.3594*	*207.823*	*142382.7*	9	9	1.85E+09	1.37E−01
			703.8545	306.174	142381.0	5	5	1.37E+09	1.02E−01
			703.8505	306.174	142381.8	5	3	7.65E+08	3.41E−02
			702.8996	113.178	142381.0	3	5	4.62E+08	5.70E−02
			702.8957	113.178	142381.8	3	3	4.62E+08	3.42E−02
			702.8379	113.178	142393.5	3	1	1.85E+09	4.56E−02
			702.3370	0	142381.8	1	3	6.17E+08	1.37E−01
O III	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3S^o$	*507.9239*	*207.823*	197087.7	9	3	1.43E+10	1.85E−01
			508.1778	306.174	197087.7	5	3	7.96E+09	1.85E−01
			507.6799	113.178	197087.7	3	3	4.79E+09	1.85E−01
			507.3883	0	197087.7	1	3	1.60E+09	1.85E−01
O III	$2s^2 2p^2 - 2s^2 2p3s$	$^3P - ^3P^o$	*374.1131*	*207.823*	*267506.67*	9	9	3.96E+09	8.31E−02
			374.4324	306.174	267377.11	5	3	1.64E+09	2.07E−02
			374.3278	113.178	267258.71	3	1	3.94E+09	2.76E−02
			374.1620	113.178	267377.11	3	3	9.91E+08	2.08E−02
			374.0725	306.174	267634.00	5	5	2.97E+09	6.23E−02
			374.0036	0	267377.11	1	3	1.32E+09	8.31E−02
			373.8027	113.178	267634.00	3	5	9.94E+08	3.47E−02
O III	$2s^2 2p^2 - 2s^2 2p3d$	$^3P - ^3D^o$	*305.7214*	*207.823*	*327302.96*	9	15	2.01E+10	4.70E−01
			305.8824	306.174	327229.25	5	3	5.58E+08	4.70E−03
			305.8365	306.174	327278.30	5	5	5.03E+09	7.06E−02
			305.7674	306.174	327352.17	5	7	2.01E+10	3.95E−01
			305.7019	113.178	327229.25	3	3	8.42E+09	1.18E−01
			305.6561	113.178	327278.30	3	5	1.51E+10	3.52E−01
			305.5962	0	327229.25	1	3	1.12E+10	4.70E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O III	$2s^2 2p^2 - 2s^2 2p3d$	^{3}P$-^3$P^o	*303.6565*	*207.823*	*329527.31*	9	9	1.16E+10	1.60E−01
			303.8003	306.174	329469.80	5	5	8.67E+09	1.20E−01
			303.6950	306.174	329583.89	5	3	4.81E+09	3.99E−02
			303.6223	113.178	329469.80	3	5	2.89E+09	6.66E−02
			303.5171	113.178	329583.89	3	3	2.89E+09	3.99E−02
			303.4607	113.178	329645.14	3	1	1.16E+10	5.32E−02
			303.4129	0	329583.89	1	3	3.86E+09	1.60E−01
O III	$2s^2 2p^2 - 2s^2 2p4s$	^{3}P$-^3$P^o	*280.2877*	*207.823*	*356984.03*	9	9	9.42E+08	1.11E−02
			280.4744	306.174	356844.98	5	3	3.91E+08	2.77E−03
			280.4081	113.178	356736.30	3	1	9.39E+08	3.69E−03
			280.3226	113.178	356844.98	3	3	2.35E+08	2.77E−03
			280.2605	306.174	357117.01	5	5	7.05E+08	8.30E−03
			280.2337	0	356844.98	1	3	3.14E+08	1.11E−02
			280.1090	113.178	357117.01	3	5	2.35E+08	4.61E−03
O III	$2s^2 2p^2 - 2s2p^2(^4$P$)3p$	^{3}P$-^3$S^o	*275.4399*	*207.823*	363263.38	9	3	3.67E+09	1.39E−02
			275.5146	306.174	363263.38	5	3	2.04E+09	1.39E−02
			275.3682	113.178	363263.38	3	3	1.22E+09	1.39E−02
			275.2824	0	363263.38	1	3	4.08E+08	1.39E−02
O III	$2s^2 2p^2 - 2s2p^2(^4$P$)3p$	^{3}P$-^3$D^o	*267.0236*	*207.823*	*374706.57*	9	15	6.62E+09	1.18E−01
			267.1900	306.174	374571.64	5	3	1.84E+08	1.18E−03
			267.1244	306.174	374663.52	5	5	1.66E+09	1.78E−02
			267.0523	113.178	374571.64	3	3	2.76E+09	2.95E−02
			267.0306	306.174	374795.14	5	7	6.63E+09	9.92E−02
			266.9868	113.178	374663.52	3	5	4.97E+09	8.86E−02
			266.9716	0	374571.64	1	3	3.68E+09	1.18E−01
O III	$2s^2 2p^2 - 2s2p^2(^4$P$)3p$	^{3}P$-^3$P^o	*264.4067*	*207.823*	*378413.01*	9	9	7.01E+09	7.35E−02
			264.4806	306.174	378405.68	5	5	5.26E+09	5.52E−02
			264.4721	306.174	378417.84	5	3	2.92E+09	1.84E−02
			264.3457	113.178	378405.68	3	5	1.76E+09	3.07E−02
			264.3372	113.178	378417.84	3	3	1.76E+09	1.84E−02
			264.3251	113.178	378435.16	3	1	7.05E+09	2.46E−02
			264.2582	0	378417.84	1	3	2.34E+09	7.36E−02
O III	$2s^2 2p^2 - 2s^2 2p4d$	^{3}P$-^3$D^o	*263.7814*	*207.823*	*379309.59*	9	15	5.98E+09	1.04E−01
			263.9073	306.174	379227.15	5	3	1.66E+08	1.04E−03
			263.8614	306.174	379293.03	5	5	1.49E+09	1.56E−02
			263.8170	306.174	379356.75	5	7	5.97E+09	8.72E−02
			263.7729	113.178	379227.15	3	3	2.48E+09	2.59E−02
			263.7271	113.178	379293.03	3	5	4.48E+09	7.78E−02
			263.6942	0	379227.15	1	3	3.33E+09	1.04E−01
O III	$2s^2 2p^2 - 2s^2 2p4d$	^{3}P$-^3$P^o	*262.8080*	*207.823*	*380713.70*	9	9	1.05E+09	1.09E−02
			262.8809	306.174	380706.51	5	5	7.87E+08	8.15E−03
			262.8731	306.174	380717.92	5	3	4.36E+08	2.71E−03
			262.7476	113.178	380706.51	3	5	2.63E+08	4.53E−03
			262.7398	113.178	380717.92	3	3	2.62E+08	2.71E−03
			262.7266	113.178	380737.00	3	1	1.05E+09	3.63E−03
			262.6617	0	380717.92	1	3	3.51E+08	1.09E−02
O III	$2s^2 2p^2 - 2s^2 2p5s$	^{3}P$-^3$P^o	*255.1916*	*207.823*	*392070.20*	9	9	7.05E+08	6.88E−03
			255.3550	306.174	391917.80	5	3	2.93E+08	1.72E−03
			255.2860	113.178	391830.76	3	1	7.03E+08	2.29E−03
			255.2293	113.178	391917.80	3	3	1.76E+08	1.72E−03
			255.1649	306.174	392209.53	5	5	5.29E+08	5.16E−03
			255.1555	0	391917.80	1	3	2.35E+08	6.88E−03
			255.0394	113.178	392209.53	3	5	1.77E+08	2.87E−03
O III	$2s^2 2p^2 - 2s^2 2p5d$	^{3}P$-^3$D^o	*248.6023*	*207.823*	*402456.6*	9	15	4.30E+09	6.64E−02
			248.7272	306.174	402353.0	5	3	1.19E+08	6.64E−04
			248.6911	306.174	402411.5	5	5	1.08E+09	9.97E−03
			248.6158	306.174	402533.3	5	7	4.30E+09	5.58E−02
			248.6079	113.178	402353.0	3	3	1.79E+09	1.66E−02
			248.5718	113.178	402411.5	3	5	3.23E+09	4.98E−02
			248.5380	0	402353.0	1	3	2.39E+09	6.64E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O III	$2s^2 2p^2 - 2s^2 2p6s$	^{3}P$-^3$P^o	*244.4503*	*207.823*	*409288.9*	9	9	3.24E+08	2.90E−03
			244.6067	306.174	409125.7	5	3	1.35E+08	7.25E−04
			244.5350	113.178	409052.6	3	1	3.24E+08	9.67E−04
			244.4913	113.178	409125.7	3	3	8.09E+07	7.25E−04
			244.4237	0	409125.7	1	3	1.08E+08	2.90E−03
			244.4223	306.174	409434.1	5	5	2.43E+08	2.18E−03
			244.3071	113.178	409434.1	3	5	8.11E+07	1.21E−03
O III	$2s^2 2p^2 - 2s^2 2p6d$	^{3}P$-^3$D^o	*240.980*	*207.823*	*415180*	9	15	2.56E+09	3.72E−02
			241.037	306.174	415180	5	7	2.57E+09	3.13E−02
			241.037	306.174	415180	5	5	6.41E+08	5.58E−03
			241.037	306.174	415180	5	3	7.12E+07	3.72E−04
			240.925	113.178	415180	3	5	1.92E+09	2.79E−02
			240.925	113.178	415180	3	3	1.07E+09	9.32E−03
			240.859	0	415180	1	3	1.43E+09	3.72E−02
O III	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})4p$	^{3}P$-^3$S^o	*228.9353*	*207.823*	437012.5	9	3	1.83E+09	4.79E−03
			228.9868	306.174	437012.5	5	3	1.02E+09	4.79E−03
			228.8857	113.178	437012.5	3	3	6.10E+08	4.79E−03
			228.8264	0	437012.5	1	3	2.03E+08	4.79E−03
O III	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})4p$	^{3}P$-^3$D^o	*225.984*	*207.823*	*442718*	9	15	3.03E+07	3.87E−04
			226.034	306.174	442718	5	7	3.03E+07	3.25E−04
				113.178		3	5	2.19E+07	2.79E−04
				0		1	3	1.62E+07	3.72E−04
				306.174		5	5	7.29E+06	5.58E−05
				113.178		3	3	1.22E+07	9.31E−05
				306.174		5	3	8.10E+05	3.72E−06
O IV	$2s^2 2p - 2s2p^2$	^{2}P$^o-^2$D	*789.3620*	*257.3*	*126941.9*	6	10	7.07E+08	1.10E−01
			790.1990	385.9	126936.3	4	6	7.07E+08	9.93E−02
			790.1122	385.9	126950.2	4	4	1.18E+08	1.10E−02
			787.7105	0	126950.2	2	4	5.97E+08	1.11E−01
O IV	$2s^2 2p - 2s2p^2$	^{2}P$^o-^2$S	*609.3506*	*257.3*	164366.4	6	2	3.61E+09	6.69E−02
			609.8286	385.9	164366.4	4	2	2.40E+09	6.69E−02
			608.3968	0	164366.4	2	2	1.21E+09	6.70E−02
O IV	$2s^2 2p - 2s2p^2$	^{2}P$^o-^2$P	*554.3674*	*257.3*	*180643.1*	6	6	7.27E+09	3.35E−01
			555.2628	385.9	180480.8	4	2	2.41E+09	5.58E−02
			554.5134	385.9	180724.2	4	4	6.05E+09	2.79E−01
			554.0756	0	180480.8	2	2	4.87E+09	2.24E−01
			553.3293	0	180724.2	2	4	1.22E+09	1.12E−01
O IV	$2s^2 2p - 2s^2 3s$	^{2}P$^o-^2$S	*279.8322*	*257.3*	357614.3	6	2	8.02E+09	3.14E−02
			279.9330	385.9	357614.3	4	2	5.35E+09	3.14E−02
			279.6309	0	357614.3	2	2	2.68E+09	3.14E−02
O IV	$2s^2 2p - 2s^2 3d$	^{2}P$^o-^2$D	*238.5003*	*257.3*	*419543.9*	6	10	3.55E+10	5.04E−01
			238.5792	385.9	419533.9	4	4	5.91E+09	5.04E−02
			238.5697	385.9	419550.6	4	6	3.55E+10	4.54E−01
			238.3598	0	419533.9	2	4	2.96E+10	5.04E−01
O IV	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$P	*214.1103*	*257.3*	*467306.4*	6	6	1.09E+10	7.52E−02
			214.2046	385.9	467229.3	4	2	3.63E+09	1.25E−02
			214.1516	385.9	467344.9	4	4	9.10E+09	6.26E−02
			214.0277	0	467229.3	2	2	7.29E+09	5.01E−02
			213.9747	0	467344.9	2	4	1.83E+09	2.51E−02
O IV	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$D	*207.2272*	*257.3*	*482819.4*	6	10	1.17E+10	1.26E−01
			207.3483	385.9	482666.1	4	4	1.95E+09	1.26E−02
			207.2386	385.9	482921.6	4	6	1.17E+10	1.13E−01
			207.1826	0	482666.1	2	4	9.79E+09	1.26E−01
O IV	$2s^2 2p - 2s^2 4s$	^{2}P$^o-^2$S	*205.9459*	*257.3*	485821.7	6	2	1.07E+09	2.26E−03
			206.0005	385.9	485821.7	4	2	7.10E+08	2.26E−03
			205.8368	0	485821.7	2	2	3.56E+08	2.26E−03
O IV	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$S	*202.9906*	*257.3*	492890.9	6	2	1.06E+10	2.18E−02
			203.0436	385.9	492890.9	4	2	7.05E+09	2.18E−02
			202.8847	0	492890.9	2	2	3.53E+09	2.18E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O IV	$2s^2 2p - 2s^2 4d$	^{2}P^o–^{2}D	*195.9574*	*257.3*	*510572.3*	6	10	1.19E+10	1.14E−01
			196.0078	385.9	510569.7	4	4	2.00E+09	1.15E−02
			196.0061	385.9	510574.1	4	6	1.19E+10	1.03E−01
			195.8596	0	510569.7	2	4	9.91E+09	1.14E−01
O IV	$2s^2 2p - 2s^2 5s$	^{2}P^o–^{2}S	*185.491*	*257.3*	539368	6	2	3.18E+09	5.46E−03
			185.535	385.9	539368	4	2	2.12E+09	5.46E−03
			185.402	0	539368	2	2	1.06E+09	5.46E−03
O IV	$2s^2 2p - 2s2p(^1$P$^o)3p$	^{2}P^o–^{2}D	*182.787*	*257.3*	*547343*	6	10	2.10E+09	1.75E−02
			182.835	385.9	547326	4	4	3.49E+08	1.75E−03
			182.826	385.9	547355	4	6	2.10E+09	1.58E−02
			182.706	0	547326	2	4	1.75E+09	1.75E−02
O IV	$2s^2 2p - 2s2p(^1$P$^o)3p$	^{2}P^o–^{2}P	*181.958*	*257.3*	*549834*	6	6	3.14E+09	1.56E−02
			182.015	385.9	549792	4	2	1.05E+09	2.60E−03
			181.994	385.9	549855	4	4	2.62E+09	1.30E−02
			181.887	0	549792	2	2	2.10E+09	1.04E−02
			181.866	0	549855	2	4	5.25E+08	5.21E−03
O IV	$2s^2 2p - 2s^2 5d$	^{2}P^o–^{2}D	*181.2336*	*257.3*	*552031.2*	6	10	5.98E+09	4.91E−02
			181.2764	385.9	552029.6	4	4	9.97E+08	4.91E−03
			181.2755	385.9	552032.3	4	6	5.98E+09	4.42E−02
			181.1497	0	552029.6	2	4	4.99E+09	4.91E−02
O IV	$2s^2 2p - 2s2p(^1$P$^o)3p$	^{2}P^o–^{2}S	*180.439*	*257.3*	554461	6	2	4.23E+09	6.89E−03
			180.481	385.9	554461	4	2	2.82E+09	6.89E−03
			180.355	0	554461	2	2	1.41E+09	6.89E−03
O IV	$2s^2 2p - 2s^2 6d$	^{2}P^o–^{2}D	*174.1822*	*257.3*	*574368.7*	6	10	3.80E+09	2.88E−02
			174.2212	385.9	574368.7	4	6	3.79E+09	2.59E−02
			174.2212	385.9	574368.7	4	4	6.33E+08	2.88E−03
			174.1042	0	574368.7	2	4	3.17E+09	2.88E−02
O IV	$2s^2 2p - 2s2p(^3$P$^o)4p$	^{2}P^o–^{2}P	*173.895*	*257.3*	*575317*	6	6	4.57E+09	2.07E−02
			173.969	385.9	575202	4	2	1.52E+09	3.44E−03
			173.916	385.9	575375	4	4	3.79E+09	1.72E−02
			173.852	0	575202	2	2	3.05E+09	1.38E−02
			173.800	0	575375	2	4	7.63E+08	6.91E−03
O IV	$2s^2 2p - 2s2p(^3$P$^o)4p$	^{2}P^o–^{2}D	*171.111*	*257.3*	*584673*	6	10	4.93E+09	3.61E−02
			171.187	385.9	584541	4	4	8.22E+08	3.61E−03
			171.123	385.9	584761	4	6	4.94E+09	3.25E−02
			171.074	0	584541	2	4	4.11E+09	3.61E−02
O IV	$2s^2 2p - 2s2p(^3$P$^o)4p$	^{2}P^o–^{2}S	*169.546*	*257.3*	590069	6	2	2.03E+09	2.92E−03
			169.583	385.9	590069	4	2	1.35E+09	2.92E−03
			169.472	0	590069	2	2	6.80E+08	2.93E−03
O IV	$2s^2 2p - 2p^2(^3$P$)3s$	^{2}P^o–^{2}P	*168.289*	*257.3*	*594472*	6	6	5.93E+08	2.52E−03
			168.363	385.9	594340	4	2	1.97E+08	4.19E−04
			168.307	385.9	594538	4	4	4.94E+08	2.10E−03
			168.254	0	594340	2	2	3.96E+08	1.68E−03
			168.198	0	594538	2	4	9.89E+07	8.39E−04
O IV	$2s^2 2p - 2s2p(^3$P$^o)4f$	^{2}P^o–^{2}D	*167.6567*	*257.3*	*596714.3*	6	10	8.03E+07	5.64E−04
			167.7086	385.9	596658.3	4	6	8.03E+07	5.08E−04
			167.6692	385.9	596798.2	4	4	1.34E+07	5.64E−05
			167.5608	0	596798.2	2	4	6.71E+07	5.65E−04
O IV	$2s^2 2p - 2p^2(^1$D$)3s$	^{2}P^o–^{2}D	*166.710*	*257.3*	*600100*	6	10	3.02E+08	2.10E−03
			166.748	385.9	600092	4	4	5.04E+07	2.10E−04
			166.744	385.9	600106	4	6	3.02E+08	1.89E−03
			166.641	0	600092	2	4	2.52E+08	2.10E−03
O IV	$2s^2 2p - 2s2p(^3$P$^o)5p$	^{2}P^o–^{2}P	*159.164*	*257.3*	*628539*	6	6	2.79E+09	1.06E−02
			159.197	385.9	628539	4	4	2.33E+09	8.85E−03
			159.099	0	628539	2	4	4.66E+08	3.54E−03
				0		2	2	1.86E+09	7.07E−03
				385.9		4	2	9.32E+08	1.77E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O IV	$2s^2 2p - 2p^2(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*158.171*	*257.3*	*632483*	6	6	1.13E+05	4.25E−07
			158.218	385.9	632426	4	4	9.43E+04	3.54E−07
			158.175	385.9	632597	4	2	3.78E+04	7.09E−08
			158.121	0	632426	2	4	1.89E+04	1.42E−07
			158.079	0	632597	2	2	7.55E+04	2.83E−07
O IV	$2s^2 2p - 2p^2(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*151.575*	*257.3*	*659998*	6	6	3.66E+06	1.26E−05
			151.604	385.9	659998	4	4	3.05E+06	1.05E−05
			151.604	385.9	659998	4	2	1.22E+06	2.11E−06
			151.516	0	659998	2	2	2.46E+06	8.45E−06
			151.516	0	659998	2	4	6.13E+05	4.22E−06
O V	$2s^2 - 2s2p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	629.7320	0	158797.7	1	3	2.89E+09	5.15E−01
O V	$2s^2 - 2s3p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	172.1689	0	580824.9	1	3	2.96E+10	3.95E−01
O V	$2s^2 - 2p3s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	150.4923	0	664485.9	1	3	1.48E+06	1.51E−05
O V	$2s^2 - 2p3d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	139.0289	0	719274.9	1	3	6.66E+09	5.79E−02
O V	$2s^2 - 2s4p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	135.5232	0	737880.8	1	3	9.41E+09	7.77E−02
O V	$2s^2 - 2s5p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	124.616	0	802466	1	3	7.16E+09	5.00E−02
O V	$2s^2 - 2p4s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	121.318	0	824282	1	3	2.96E+07	1.96E−04
O V	$2s^2 - 2s6p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	119.102	0	839616	1	3	4.62E+09	2.95E−02
O V	$2s^2 - 2p4d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	118.000	0	847460	1	3	9.07E+08	5.68E−03
O V	$2s^2 - 2s7p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	116.161	0	860874	1	3	2.29E+09	1.39E−02
O V	$2s^2 - 2s8p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	114.358	0	874447	1	3	1.73E+09	1.02E−02
O VI	$1s^2 2s - 1s^2 2p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*1033.8160*	0	*96729.010*	2	6	4.14E+08	1.99E−01
			1037.6167	0	96374.702	2	2	4.09E+08	6.61E−02
			1031.9261	0	96906.164	2	4	4.17E+08	1.33E−01
O VI	$1s^2 2s - 1s^2 3p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*150.1011*	0	*666217.6*	2	6	2.62E+10	2.65E−01
			150.1246	0	666113.2	2	2	2.62E+10	8.84E−02
			150.0893	0	666269.8	2	4	2.62E+10	1.77E−01
O VI	$1s^2 2s - 1s^2 4p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*115.8243*	0	*863376.4*	2	6	1.23E+10	7.41E−02
			115.8301	0	863333.8	2	2	1.23E+10	2.47E−02
			115.8215	0	863397.7	2	4	1.23E+10	4.94E−02
O VI	$1s^2 2s - 1s^2 5p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*104.8130*	0	*954080*	2	6	6.48E+09	3.20E−02
			104.8130	0	954080	2	4	6.47E+09	2.13E−02
			104.8130	0	954080	2	2	6.44E+09	1.06E−02
O VI	$1s^2 2s - 1s^2 6p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*99.688*	0	*1003130*	2	6	3.78E+09	1.69E−02
			99.688	0	1003130	2	4	3.79E+09	1.13E−02
			99.688	0	1003130	2	2	3.79E+09	5.64E−03
O VI	$1s^2 2s - 1s^2 7p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*96.840*	0	*1032630*	2	6	2.39E+09	1.01E−02
			96.840	0	1032630	2	4	2.40E+09	6.74E−03
			96.840	0	1032630	2	2	2.40E+09	3.37E−03
O VI	$1s^2 2s - 1s^2 8p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*95.0820*	0	*1051724*	2	6	1.61E+09	6.56E−03
			95.0820	0	1051724	2	4	1.61E+09	4.37E−03
			95.0820	0	1051724	2	2	1.61E+09	2.18E−03
O VI	$1s^2 2s - 1s^2 9p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*93.9150*	0	*1064793*	2	6	1.13E+09	4.48E−03
			93.9150	0	1064793	2	4	1.13E+09	2.99E−03
			93.9150	0	1064793	2	2	1.13E+09	1.49E−03
O VI	$1s^2 2s - 1s^2 10p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*93.0300*	0	*1074922*	2	6	8.30E+08	3.23E−03
			93.0300	0	[1074922]	2	4	8.25E+08	2.14E−03
			93.0300	0	[1074922]	2	2	8.25E+08	1.07E−03
O VII	$1s^2 - 1s2p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	21.6019	0	4629226	1	3	3.32E+12	6.96E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
O VII	$1s^2-1s3p$	^{1}S$-^1$P^o	18.6288	0	5368028	1	3	9.35E+11	1.46E−01
O VII	$1s^2-1s4p$	^{1}S$-^1$P^o	17.7680	0	5628095	1	3	3.89E+11	5.52E−02
O VII	$1s^2-1s5p$	^{1}S$-^1$P^o	17.3960	0	5748448	1	3	1.97E+11	2.68E−02
O VII	$1s^2-1s6p$	^{1}S$-^1$P^o	17.2000	0	5813953	1	3	1.13E+11	1.51E−02
O VII	$1s^2-1s7p$	^{1}S$-^1$P^o	17.0860	0	5852745	1	3	7.14E+10	9.37E−03
O VII	$1s^2-1s8p$	^{1}S$-^1$P^o	17.0092	0	[5879164]	1	3	4.78E+10	6.22E−03
O VII	$1s^2-1s9p$	^{1}S$-^1$P^o	16.9584	0	[5896766]	1	3	3.36E+10	4.34E−03
O VII	$1s^2-1s10p$	^{1}S$-^1$P^o	16.9223	0	[5909359]	1	3	2.44E+10	3.14E−03
O VIII	$1s-2p$	^{2}S$-^2$P^o	*18.9689*	0	*5271783.5*	2	6	2.57E+12	4.16E−01
			18.9725	0	[5270781.8]	2	2	2.58E+12	1.39E−01
			18.9671	0	[5272284.4]	2	4	2.57E+12	2.77E−01
O VIII	$1s-3p$	^{2}S$-^2$P^o	*16.0059*	0	*6247696.6*	2	6	6.86E+11	7.90E−02
			16.0067	0	[6247399.7]	2	2	6.85E+11	2.63E−02
			16.0055	0	[6247845.0]	2	4	6.86E+11	5.27E−02
O VIII	$1s-4p$	^{2}S$-^2$P^o	*15.1762*	0	*6589280.1*	2	6	2.80E+11	2.90E−02
			15.1765	0	[6589154.9]	2	2	2.80E+11	9.67E−03
			15.1760	0	[6589342.7]	2	4	2.79E+11	1.93E−02
O VIII	$1s-5p$	^{2}S$-^2$P^o	*14.8206*	0	*6747376.7*	2	6	1.41E+11	1.39E−02
			14.8207	0	[6747312.6]	2	2	1.41E+11	4.65E−03
			14.8205	0	[6747408.8]	2	4	1.41E+11	9.30E−03
O VIII	$1s-6p$	^{2}S$-^2$P^o	*14.6343*	0	*6833251.7*	2	6	8.10E+10	7.80E−03
			14.6344	0	[6833214.6]	2	2	8.10E+10	2.60E−03
			14.6343	0	[6833270.2]	2	4	8.10E+10	5.20E−03
O VIII	$1s-7p$	^{2}S$-^2$P^o	*14.5243*	0	*6885029.1*	2	6	5.08E+10	4.82E−03
			14.5243	0	[6885005.7]	2	2	5.06E+10	1.60E−03
			14.5242	0	[6885040.8]	2	4	5.07E+10	3.21E−03
O VIII	$1s-8p$	^{2}S$-^2$P^o	*14.4537*	0	*6918633.3*	2	6	3.39E+10	3.19E−03
			14.4538	0	[6918617.6]	2	2	3.38E+10	1.06E−03
			14.4537	0	[6918641.1]	2	4	3.38E+10	2.12E−03
O VIII	$1s-9p$	^{2}S$-^2$P^o	*14.4058*	0	*6941671.4*	2	6	2.38E+10	2.22E−03
			14.4058	0	[6941660.4]	2	2	2.37E+10	7.38E−04
			14.4057	0	[6941676.9]	2	4	2.38E+10	1.48E−03
O VIII	$1s-10p$	^{2}S$-^2$P^o	*14.3716*	0	*6958150.0*	2	6	1.72E+10	1.60E−03
			14.3717	0	[6958142.0]	2	2	1.73E+10	5.35E−04
			14.3716	0	[6958154.0]	2	4	1.73E+10	1.07E−03
F I	$2s^22p^5-2p^4(^3$P$)3s$	^{2}P$^o-^2$P	*955.066*	*134.7*	*104839.5*	6	6	6.92E+08	9.46E−02
			958.525	404.1	104731.0	2	4	1.14E+08	3.14E−02
			955.546	404.1	105056.3	2	2	4.61E+08	6.31E−02
			954.827	0	104731.0	4	4	5.77E+08	7.89E−02
			951.871	0	105056.3	4	2	2.33E+08	1.58E−02
F I	$2s^22p^5-2p^4(^1$D$)3s$	^{2}P$^o-^2$D	*807.8410*	*134.7*	*123921.4*	6	10	2.96E+08	4.82E−02
			809.5992	404.1	123922.0	2	4	2.45E+08	4.81E−02
			806.9654	0	123921.0	4	6	2.96E+08	4.34E−02
			806.9592	0	123922.0	4	4	4.95E+07	4.83E−03
F I	$2s^22p^5-2p^4(^3$P$)4s$	^{2}P$^o-^2$P	*792.0954*	*134.7*	*126382.1*	6	6	2.02E+08	1.90E−02
			794.4170	404.1	126282.6	2	4	3.33E+07	6.31E−03
			792.5370	404.1	126581.2	2	2	1.35E+08	1.27E−02
			791.8749	0	126282.6	4	4	1.68E+08	1.58E−02
			790.0069	0	126581.2	4	2	6.80E+07	3.18E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*781.0211*	*134.7*	*128172.2*	6	10	1.28E+08	1.95E−02
			782.3763	404.1	128219.8	2	4	1.06E+08	1.94E−02
			780.3935	0	128140.5	4	6	1.29E+08	1.76E−02
			779.9106	0	128219.8	4	4	2.14E+07	1.95E−03
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*778.1279*	*134.7*	*128648.3*	6	6	4.67E+07	4.24E−03
			780.5419	404.1	128520.2	2	2	3.09E+07	2.82E−03
			779.3734	404.1	128712.3	2	4	7.74E+06	1.41E−03
			778.0877	0	128520.2	4	2	1.56E+07	7.06E−04
			776.9265	0	128712.3	4	4	3.91E+07	3.54E−03
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*752.2268*	*134.7*	*133073.3*	6	6	8.13E+07	6.90E−03
			754.1803	404.1	132998.4	2	4	1.35E+07	2.30E−03
			752.9035	404.1	133223.2	2	2	5.41E+07	4.60E−03
			751.8889	0	132998.4	4	4	6.80E+07	5.76E−03
			750.6197	0	133223.2	4	2	2.72E+07	1.15E−03
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*749.2602*	*134.7*	*133599.7*	6	10	6.87E+07	9.64E−03
			750.6395	404.1	133623.8	2	4	5.69E+07	9.62E−03
			748.5951	0	133583.6	4	6	6.90E+07	8.69E−03
			748.3694	0	133623.8	4	4	1.15E+07	9.65E−04
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*746.8467*	*134.7*	*134031.0*	6	6	2.73E+07	2.28E−03
			749.0284	404.1	133910.4	2	2	1.81E+07	1.52E−03
			748.0149	404.1	134091.3	2	4	4.54E+06	7.61E−04
			746.7680	0	133910.4	4	2	9.14E+06	3.82E−04
			745.7606	0	134091.3	4	4	2.29E+07	1.91E−03
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*735.8715*	*134.7*	*136028.0*	6	6	4.04E+07	3.28E−03
			737.6683	404.1	135966.4	2	4	6.68E+06	1.09E−03
			736.6639	404.1	136151.2	2	2	2.69E+07	2.19E−03
			735.4759	0	135966.4	4	4	3.39E+07	2.75E−03
			734.4775	0	136151.2	4	2	1.36E+07	5.49E−04
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*735.4771*	*134.7*	*136100.9*	6	10	3.90E+07	5.27E−03
			736.8669	404.1	136113.8	2	4	3.23E+07	5.26E−03
			734.7958	0	136092.2	4	6	3.90E+07	4.74E−03
			734.6793	0	136113.8	4	4	6.51E+06	5.27E−04
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*733.1523*	*134.7*	*136532.0*	6	6	1.59E+07	1.28E−03
			735.2078	404.1	136420.1	2	2	1.05E+07	8.52E−04
			734.3012	404.1	136588.0	2	4	2.63E+06	4.26E−04
			733.0300	0	136420.1	4	2	5.31E+06	2.14E−04
			732.1288	0	136588.0	4	4	1.33E+07	1.07E−03
F I	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*728.2197*	*134.7*	*137455.9*	6	10	2.38E+07	3.15E−03
			729.6149	404.1	137462.7	2	4	1.97E+07	3.14E−03
			727.5302	0	137451.3	4	6	2.38E+07	2.83E−03
			727.4700	0	137462.7	4	4	3.97E+06	3.15E−04
F I	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*681.323*	*134.7*	146908	6	2	8.41E+08	1.95E−02
			682.576	404.1	146908	2	2	2.79E+08	1.95E−02
			680.698	0	146908	4	2	5.61E+08	1.95E−02
F II	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*606.8470*	*168.1*	*164954.29*	9	9	3.21E+09	1.77E−01
			608.0621	341.0	164797.88	3	5	7.94E+08	7.34E−02
			607.4716	489.9	165106.66	1	3	1.06E+09	1.76E−01
			606.9226	341.0	165106.66	3	3	7.99E+08	4.41E−02
			606.8039	0	164797.88	5	5	2.39E+09	1.32E−01
			606.2877	341.0	165279.19	3	1	3.21E+09	5.89E−02
			605.6691	0	165106.66	5	3	1.34E+09	4.41E−02
F II	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*547.3565*	*168.1*	182864.40	9	3	3.71E+09	5.55E−02
			548.3223	489.9	182864.40	1	3	4.10E+08	5.54E−02
			547.8750	341.0	182864.40	3	3	1.23E+09	5.54E−02
			546.8533	0	182864.40	5	3	2.06E+09	5.55E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F II	$2s^2 2p^4 - 2p^3(^2D^o)3s$	$^3P - ^3D^o$	*472.3401*	*168.1*	*211879.98*	9	15	1.25E+09	6.97E−02
			473.0137	489.9	211900.26	1	3	6.92E+08	6.96E−02
			472.7100	341.0	211887.19	3	5	9.37E+08	5.23E−02
			472.6808	341.0	211900.26	3	3	5.22E+08	1.75E−02
			471.9962	0	211866.13	5	7	1.25E+09	5.86E−02
			471.9492	0	211887.19	5	5	3.11E+08	1.04E−02
			471.9201	0	211900.26	5	3	3.48E+07	6.97E−04
F II	$2s^2 2p^4 - 2p^3(^2P^o)3s$	$^3P - ^3P^o$	*435.9520*	*168.1*	*229551.15*	9	9	1.23E+09	3.51E−02
			436.5632	489.9	229551.79	1	3	4.09E+08	3.51E−02
			436.2828	341.0	229550.11	3	5	3.09E+08	1.47E−02
			436.2796	341.0	229551.79	3	3	3.08E+08	8.79E−03
			436.2746	341.0	229554.45	3	1	1.23E+09	1.17E−02
			435.6347	0	229550.11	5	5	9.28E+08	2.64E−02
			435.6315	0	229551.79	5	3	5.15E+08	8.80E−03
F II	$2s^2 2p^4 - 2p^3(^4S^o)3d$	$^3P - ^3D^o$	*431.2261*	*168.1*	*232065.00*	9	15	2.09E+09	9.73E−02
			431.8285	489.9	232063.34	1	3	1.16E+09	9.71E−02
			431.5510	341.0	232063.34	3	3	8.70E+08	2.43E−02
			431.5494	341.0	232064.16	3	5	1.57E+09	7.29E−02
			430.9168	0	232063.34	5	3	5.83E+07	9.74E−04
			430.9153	0	232064.16	5	5	5.24E+08	1.46E−02
			430.9113	0	232066.32	5	7	2.10E+09	8.18E−02
F II	$2s^2 2p^4 - 2p^3(^4S^o)4s$	$^3P - ^3S^o$	*422.3103*	*168.1*	236960.83	9	3	1.19E+09	1.06E−02
			422.8850	489.9	236960.83	1	3	1.32E+08	1.06E−02
			422.6188	341.0	236960.83	3	3	3.96E+08	1.06E−02
			422.0107	0	236960.83	5	3	6.62E+08	1.06E−02
F II	$2s^2 2p^4 - 2p^3(^4S^o)4d$	$^3P - ^3D^o$	*393.9370*	*168.1*	*254015.79*	9	15	9.88E+08	3.83E−02
			394.4385	489.9	254014.83	1	3	5.46E+08	3.82E−02
			394.2070	341.0	254014.83	3	3	4.10E+08	9.56E−03
			394.2061	341.0	254015.40	3	5	7.39E+08	2.87E−02
			393.6778	0	254014.83	5	3	2.75E+07	3.83E−04
			393.6769	0	254015.40	5	5	2.47E+08	5.75E−03
			393.6752	0	254016.48	5	7	9.90E+08	3.22E−02
F II	$2s^2 2p^4 - 2p^3(^4S^o)5s$	$^3P - ^3S^o$	*390.4811*	*168.1*	256262.46	9	3	4.97E+08	3.79E−03
			390.9724	489.9	256262.46	1	3	5.50E+07	3.78E−03
			390.7449	341.0	256262.46	3	3	1.65E+08	3.78E−03
			390.2249	0	256262.46	5	3	2.77E+08	3.79E−03
F II	$2s^2 2p^4 - 2p^3(^4S^o)5d$	$^3P - ^3D^o$	*378.9222*	*168.1*	*264074.54*	9	15	2.42E+08	8.67E−03
			379.3803	489.9	264077.66	1	3	1.34E+08	8.66E−03
			379.1694	341.0	264075.35	3	5	1.81E+08	6.50E−03
			379.1661	341.0	264077.66	3	3	1.01E+08	2.17E−03
			378.6837	0	264072.62	5	7	2.42E+08	7.29E−03
			378.6798	0	264075.35	5	5	6.05E+07	1.30E−03
			378.6765	0	264077.66	5	3	6.73E+06	8.68E−05
F II	$2s^2 2p^4 - 2p^3(^4S^o)6s$	$^3P - ^3S^o$	*377.0889*	*168.1*	265357.56	9	3	1.66E+08	1.18E−03
			377.5470	489.9	265357.56	1	3	1.84E+07	1.18E−03
			377.3349	341.0	265357.56	3	3	5.53E+07	1.18E−03
			376.8500	0	265357.56	5	3	9.24E+07	1.18E−03
F II	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3D^o$	*376.9009*	*168.1*	*265489.86*	9	15	1.44E+09	5.12E−02
			377.3205	489.9	265516.57	1	3	7.98E+08	5.11E−02
			377.1345	341.0	265498.41	3	5	1.08E+09	3.84E−02
			377.1086	341.0	265516.57	3	3	6.00E+08	1.28E−02
			376.6871	0	265472.31	5	7	1.44E+09	4.30E−02
			376.6501	0	265498.41	5	5	3.62E+08	7.69E−03
			376.6243	0	265516.57	5	3	4.01E+07	5.12E−04
F II	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3S^o$	*375.6680*	*168.1*	266360.60	9	3	3.28E+09	2.31E−02
			376.1227	489.9	266360.60	1	3	3.61E+08	2.30E−02
			375.9122	341.0	266360.60	3	3	1.09E+09	2.30E−02
			375.4309	0	266360.60	5	3	1.82E+09	2.31E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F II	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*375.5055*	*168.1*	*266475.78*	9	9	3.25E+09	6.88E−02
			375.9274	489.9	266498.74	1	3	1.08E+09	6.87E−02
			375.7804	341.0	266453.88	3	5	8.11E+08	2.86E−02
			375.7170	341.0	266498.74	3	3	8.13E+08	1.72E−02
			375.6921	341.0	266516.43	3	1	3.25E+09	2.29E−02
			375.2995	0	266453.88	5	5	2.44E+09	5.16E−02
			375.2363	0	266498.74	5	3	1.36E+09	1.72E−02
F II	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)6d^*$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*371.2079*	*168.1*	*269558.89*	9	15	1.88E+08	6.46E−03
			371.6315	489.9	269573.64	1	3	1.04E+08	6.46E−03
			371.4394	341.0	269563.93	3	5	1.40E+08	4.84E−03
			371.4260	341.0	269573.64	3	3	7.83E+07	1.62E−03
			370.9901	0	269548.97	5	7	1.88E+08	5.43E−03
			370.9695	0	269563.93	5	5	4.70E+07	9.70E−04
			370.9562	0	269573.64	5	3	5.23E+06	6.47E−05
F II	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4s^*$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*370.9654*	*168.1*	*269735.03*	9	15	7.59E+08	2.61E−02
			371.4065	489.9	269736.69	1	3	4.19E+08	2.60E−02
			371.2023	341.0	269735.89	3	5	5.69E+08	1.96E−02
			371.2012	341.0	269736.69	3	3	3.16E+08	6.52E−03
			370.7360	0	269733.70	5	7	7.59E+08	2.19E−02
			370.7330	0	269735.89	5	5	1.90E+08	3.92E−03
			370.7319	0	269736.69	5	3	2.11E+07	2.61E−04
F II	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)7s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*370.0885*	*168.1*	270373.76	9	3	1.91E+08	1.31E−03
			370.5298	489.9	270373.76	1	3	2.12E+07	1.31E−03
			370.3254	341.0	270373.76	3	3	6.37E+07	1.31E−03
			369.8584	0	270373.76	5	3	1.06E+08	1.31E−03
F II	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*353.6546*	*168.1*	*282929.86*	9	9	1.53E+09	2.86E−02
			354.0793	489.9	282912.54	1	3	5.07E+08	2.86E−02
			353.9131	341.0	282896.27	3	1	1.52E+09	9.52E−03
			353.8927	341.0	282912.54	3	3	3.81E+08	7.15E−03
			353.8496	341.0	282946.97	3	5	3.80E+08	1.19E−02
			353.4661	0	282912.54	5	3	6.37E+08	7.16E−03
			353.4231	0	282946.97	5	5	1.15E+09	2.15E−02
F II	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*348.9967*	*168.1*	*286703.75*	9	9	1.22E+09	2.23E−02
			349.3862	489.9	286706.14	1	3	4.04E+08	2.22E−02
			349.2104	341.0	286701.28	3	5	3.05E+08	9.29E−03
			349.2045	341.0	286706.14	3	3	3.05E+08	5.57E−03
			349.2011	341.0	286708.93	3	1	1.22E+09	7.42E−03
			348.7951	0	286701.28	5	5	9.21E+08	1.68E−02
			348.7892	0	286706.14	5	3	5.09E+08	5.57E−03
F III	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*657.4731*	0	*152097.5*	4	12	1.29E+09	2.50E−01
			658.3291	0	151899.7	4	6	1.28E+09	1.25E−01
			656.8688	0	152237.4	4	4	1.29E+09	8.35E−02
			656.1211	0	152410.9	4	2	1.30E+09	4.18E−02
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*315.4124*	0	*317045.28*	4	12	3.04E+09	1.36E−01
			315.7465	0	316709.81	4	2	3.01E+09	2.25E−02
			315.5361	0	316920.99	4	4	3.01E+09	4.50E−02
			315.2188	0	317239.97	4	6	3.03E+09	6.76E−02
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*255.8086*	0	*390917.34*	4	12	2.30E+10	6.77E−01
			255.8627	0	390834.60	4	6	2.30E+10	3.38E−01
			255.7699	0	390976.35	4	4	2.29E+10	2.25E−01
			255.7234	0	391047.54	4	2	2.31E+10	1.13E−01
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*240.6608*	0	*415522.62*	4	12	5.49E+08	1.43E−02
			240.8570	0	415184.12	4	2	5.47E+08	2.38E−03
			240.7350	0	415394.51	4	4	5.49E+08	4.77E−03
			240.5460	0	415720.86	4	6	5.49E+08	7.15E−03
F III	$2s^2 2p^3 - 2p^3(5\mathrm{SO})3p$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*230.1169*	0	*434561.65*	4	12	6.59E+09	1.57E−01
			230.1238	0	434548.72	4	6	6.59E+09	7.85E−02
			230.1126	0	434569.80	4	4	6.59E+09	5.23E−02
			230.1050	0	434584.16	4	2	6.60E+09	2.62E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*226.1249*	0	*442233.41*	4	12	8.35E+09	1.92E−01
			226.1690	0	442147.19	4	6	8.33E+09	9.58E−02
			226.0938	0	442294.31	4	4	8.34E+09	6.39E−02
			226.0550	0	442370.28	4	2	8.35E+09	3.20E−02
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})5s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*220.7775*	0	*452944.71*	4	12	3.98E+08	8.73E−03
			220.9564	0	452577.90	4	2	3.96E+08	1.45E−03
			220.8400	0	452816.60	4	4	3.97E+08	2.90E−03
			220.6763	0	453152.39	4	6	3.99E+08	4.37E−03
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})5d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*214.833*	0	*465478*	4	12	5.40E+09	1.12E−01
			214.8624	0	465414.14	4	6	5.43E+09	5.64E−02
			214.804	0	465541	4	4	5.44E+09	3.76E−02
			214.804	0	465541	4	2	5.44E+09	1.88E−02
F III	$2s^2 2p^3 - 2p^2(^3\mathrm{P})6s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*212.2238*	0	*471200.61*	4	12	1.78E+08	3.60E−03
			212.3125	0	471003.82	4	4	1.78E+08	1.20E−03
			212.1648	0	471331.80	4	6	1.78E+08	1.80E−03
				0		4	2	1.79E+08	6.04E−04
F IV	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*678.1794*	*415.8*	*147869.5*	9	15	8.68E+08	9.97E−02
			679.2168	613.4	147841.8	5	7	8.63E+08	8.36E−02
			678.9996	613.4	147888.9	5	5	2.16E+08	1.49E−02
			678.9410	613.4	147901.6	5	3	2.40E+07	9.96E−04
			677.2145	225.2	147888.9	3	5	6.54E+08	7.49E−02
			677.1563	225.2	147901.6	3	3	3.64E+08	2.50E−02
			676.1252	0	147901.6	1	3	4.86E+08	1.00E−01
F IV	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*571.9978*	*415.8*	*175241.7*	9	9	2.47E+09	1.21E−01
			572.6603	613.4	175237.0	5	5	1.85E+09	9.11E−02
			572.6439	613.4	175242.0	5	3	1.03E+09	3.04E−02
			571.3900	225.2	175237.0	3	5	6.21E+08	5.07E−02
			571.3737	225.2	175242.0	3	3	6.23E+08	3.05E−02
			571.3016	225.2	175264.1	3	1	2.48E+09	4.05E−02
			570.6395	0	175242.0	1	3	8.33E+08	1.22E−01
F IV	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*420.3776*	*415.8*	238297.2	9	3	1.79E+10	1.58E−01
			420.7270	613.4	238297.2	5	3	9.92E+09	1.58E−01
			420.0410	225.2	238297.2	3	3	5.97E+09	1.58E−01
			419.6440	0	238297.2	1	3	1.99E+09	1.58E−01
F IV	$2s^2 2p^2 - 2s^2 2p3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*240.1081*	*415.8*	*416894.9*	9	9	9.26E+09	8.00E−02
			240.3694	613.4	416639.8	5	3	3.85E+09	2.00E−02
			240.2737	225.2	416417.3	3	1	9.25E+09	2.67E−02
			240.1453	225.2	416639.8	3	3	2.31E+09	2.00E−02
			240.0787	613.4	417143.4	5	5	6.95E+09	6.01E−02
			240.0155	0	416639.8	1	3	3.09E+09	8.01E−02
			239.8552	225.2	417143.4	3	5	2.32E+09	3.34E−02
F IV	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*201.1212*	*415.8*	*497628.4*	9	15	5.82E+10	5.88E−01
			201.2607	613.4	497481.4	5	3	1.61E+09	5.88E−03
			201.2225	613.4	497575.6	5	5	1.45E+10	8.82E−02
			201.1604	613.4	497729.1	5	7	5.82E+10	4.94E−01
			201.1036	225.2	497481.4	3	3	2.42E+10	1.47E−01
			201.0655	225.2	497575.6	3	5	4.38E+10	4.42E−01
			201.0125	0	497481.4	1	3	3.24E+10	5.89E−01
F IV	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*199.9675*	*415.8*	*500497.0*	9	9	3.32E+10	1.99E−01
			200.0894	613.4	500390.1	5	5	2.48E+10	1.49E−01
			200.0045	613.4	500602.1	5	3	1.38E+10	4.96E−02
			199.9341	225.2	500390.1	3	5	8.29E+09	8.28E−02
			199.8494	225.2	500602.1	3	3	8.30E+09	4.97E−02
			199.8037	225.2	500716.5	3	1	3.32E+10	6.63E−02
			199.7594	0	500602.1	1	3	1.11E+10	1.99E−01
F IV	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*187.171*	*415.8*	534686	9	3	1.22E+10	2.14E−02
			187.240	613.4	534686	5	3	6.79E+09	2.14E−02
			187.104	225.2	534686	3	3	4.08E+09	2.14E−02
			187.026	0	534686	1	3	1.36E+09	2.14E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F IV	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*181.564*	*415.8*	*551187*	9	15	1.13E+10	9.34E−02
			181.718	613.4	550918	5	3	3.14E+08	9.33E−04
			181.658	613.4	551098	5	5	2.83E+09	1.40E−02
			181.589	225.2	550918	3	3	4.73E+09	2.34E−02
			181.570	613.4	551366	5	7	1.13E+10	7.84E−02
			181.530	225.2	551098	3	5	8.50E+09	7.00E−02
			181.515	0	550918	1	3	6.30E+09	9.34E−02
F IV	$2s^22p^2-2s^22p4s^*$	$^3\mathrm{P}-^3\mathrm{P}^o$	*179.921*	*415.8*	*556217*	9	9	3.59E+09	1.74E−02
			180.038	613.4	556051	5	3	1.50E+09	4.37E−03
			179.952	613.4	556316	5	5	2.70E+09	1.31E−02
			179.912	225.2	556051	3	3	9.01E+08	4.37E−03
			179.840	0	556051	1	3	1.20E+09	1.74E−02
			179.827	225.2	556316	3	5	9.02E+08	7.29E−03
				225.2		3	1	3.59E+09	5.81E−03
F IV	$2s^22p^2-2s2p^2(^4\mathrm{P})3p^*$	$^3\mathrm{P}-^3\mathrm{P}^o$	*178.672*	*415.8*	*560101*	9	9	8.73E+09	4.18E−02
			178.805	613.4	559881	5	3	3.62E+09	1.04E−02
			178.724	225.2	559747	3	1	8.71E+09	1.39E−02
			178.681	225.2	559881	3	3	2.17E+09	1.04E−02
			178.670	613.4	560304	5	5	6.54E+09	3.13E−02
			178.609	0	559881	1	3	2.91E+09	4.18E−02
			178.546	225.2	560304	3	5	2.18E+09	1.74E−02
F IV	$2s^22p^2-2s^22p4d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*169.820*	*415.8*	*589274*	9	15	2.28E+10	1.64E−01
			169.925	613.4	589109	5	3	6.31E+08	1.64E−03
			169.902	613.4	589188	5	5	5.71E+09	2.47E−02
			169.839	613.4	589406	5	7	2.28E+10	1.38E−01
			169.813	225.2	589109	3	3	9.51E+09	4.11E−02
			169.790	225.2	589188	3	5	1.71E+10	1.23E−01
			169.748	0	589109	1	3	1.27E+10	1.64E−01
F IV	$2s^22p^2-2s^22p4d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*169.580*	*415.8*	*590109*	9	9	1.30E+10	5.59E−02
			169.661	613.4	590024	5	5	9.71E+09	4.19E−02
			169.610	613.4	590201	5	3	5.41E+09	1.40E−02
			169.549	225.2	590024	3	5	3.24E+09	2.33E−02
			169.498	225.2	590201	3	3	3.25E+09	1.40E−02
			169.481	225.2	590262	3	1	1.30E+10	1.86E−02
			169.434	0	590201	1	3	4.34E+09	5.60E−02
F IV	$2s^22p^2-2s^22p5d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*158.551*	*415.8*	*631126*	9	15	1.21E+10	7.60E−02
			158.601	613.4	631126	5	7	1.21E+10	6.38E−02
				225.2		3	5	9.07E+09	5.70E−02
				0		1	3	6.72E+09	7.60E−02
				613.4		5	5	3.02E+09	1.14E−02
				225.2		3	3	5.04E+09	1.90E−02
				613.4		5	3	3.36E+08	7.60E−04
F IV	$2s^22p^2-2s^22p5d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*158.463*	*415.8*	*631479*	9	9	6.99E+09	2.63E−02
			158.526	613.4	631426	5	5	5.26E+09	1.98E−02
			158.496	613.4	631546	5	3	2.91E+09	6.58E−03
			158.428	225.2	631426	3	5	1.75E+09	1.10E−02
			158.398	225.2	631546	3	3	1.75E+09	6.59E−03
			158.398	225.2	631546	3	1	7.01E+09	8.79E−03
			158.342	0	631546	1	3	2.33E+09	2.63E−02
F IV	$2s^22p^2-2s^22p6d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*153.095*	*415.8*	*653606*	9	15	7.75E+09	4.54E−02
			153.141	613.4	653606	5	7	7.76E+09	3.82E−02
				225.2		3	5	5.82E+09	3.41E−02
				0		1	3	4.31E+09	4.54E−02
				613.4		5	5	1.94E+09	6.82E−03
				225.2		3	3	3.24E+09	1.14E−02
				613.4		5	3	2.15E+08	4.54E−04
F IV	$2s^22p^2-2s^22p6d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*153.050*	*415.8*	*653799*	9	9	4.36E+09	1.53E−02
			153.102	613.4	653772	5	5	3.27E+09	1.15E−02
			153.088	613.4	653833	5	3	1.82E+09	3.83E−03
			153.011	225.2	653772	3	5	1.09E+09	6.40E−03
			152.997	225.2	653833	3	3	1.09E+09	3.84E−03
			152.997	225.2	653833	3	1	4.38E+09	5.12E−03
			152.944	0	653833	1	3	1.45E+09	1.53E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F IV	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})4p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*150.960*	*415.8*	*662843*	9	15	6.97E+09	3.97E−02
			151.005	613.4	662843	5	7	6.96E+09	3.33E−02
				225.2		3	5	5.22E+09	2.97E−02
				0		1	3	3.86E+09	3.96E−02
				613.4		5	5	1.74E+09	5.93E−03
				225.2		3	3	2.89E+09	9.89E−03
				613.4		5	3	1.93E+08	3.96E−04
F IV	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})4p$	$^3\mathrm{P}-^3\mathrm{P}^o$	*150.377*	*415.8*	*665409*	9	9	7.23E+09	2.45E−02
			150.422	613.4	665409	5	5	5.39E+09	1.83E−02
			150.334	225.2	665409	3	5	1.81E+09	1.02E−02
				225.2		3	3	1.80E+09	6.11E−03
				613.4		5	3	3.00E+09	6.11E−03
				225.2		3	1	7.21E+09	8.15E−03
				0		1	3	2.40E+09	2.44E−02
F V	$2s^2 2p - 2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{D}$	*656.222*	*497*	*152885*	6	10	9.26E+08	9.96E−02
			657.333	746	152876	4	6	9.21E+08	8.95E−02
			657.237	746	152898	4	4	1.53E+08	9.94E−03
			654.031	0	152898	2	4	7.79E+08	9.99E−02
F V	$2s^2 2p - 2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{S}$	*507.440*	*497*	197565	6	2	4.45E+09	5.72E−02
			508.081	746	197565	4	2	2.96E+09	5.72E−02
			506.163	0	197565	2	2	1.49E+09	5.74E−02
F V	$2s^2 2p - 2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{P}$	*465.777*	*497*	*215192*	6	6	8.85E+09	2.88E−01
			466.995	746	214881	4	2	2.92E+09	4.78E−02
			465.979	746	215348	4	4	7.37E+09	2.40E−01
			465.374	0	214881	2	2	5.91E+09	1.92E−01
			464.365	0	215348	2	4	1.49E+09	9.63E−02
F V	$2s^2 2p - 2s^2 3s$	$^2\mathrm{P}^o-^2\mathrm{S}$	*190.747*	*497*	524751	6	2	1.64E+10	2.99E−02
			190.838	746	524751	4	2	1.09E+10	2.98E−02
			190.567	0	524751	2	2	5.49E+09	2.99E−02
F V	$2s^2 2p - 2s^2 3d$	$^2\mathrm{P}^o-^2\mathrm{D}$	*166.112*	*497*	*602500*	6	10	7.89E+10	5.44E−01
			166.187	746	602476	4	4	1.31E+10	5.44E−02
			166.176	746	602516	4	6	7.89E+10	4.90E−01
			165.982	0	602476	2	4	6.59E+10	5.44E−01
F V	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{P}$	*152.471*	*497*	*656360*	6	6	2.63E+10	9.16E−02
			152.564	746	656208	4	2	8.71E+09	1.52E−02
			152.511	746	656436	4	4	2.19E+10	7.63E−02
			152.391	0	656208	2	2	1.75E+10	6.11E−02
			152.338	0	656436	2	4	4.38E+09	3.05E−02
F V	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{D}$	*147.988*	*497*	*676226*	6	10	2.67E+10	1.46E−01
			148.107	746	675932	4	4	4.44E+09	1.46E−02
			148.000	746	676422	4	6	2.66E+10	1.31E−01
			147.944	0	675932	2	4	2.22E+10	1.46E−01
F V	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{S}$	*145.495*	*497*	687806	6	2	1.99E+10	2.10E−02
			145.548	746	687806	4	2	1.32E+10	2.10E−02
			145.390	0	687806	2	2	6.63E+09	2.10E−02
F V	$2s^2 2p - 2s^2 4s$	$^2\mathrm{P}^o-^2\mathrm{S}$	*140.363*	*497*	712936	6	2	1.22E+10	1.20E−02
			140.412	746	712936	4	2	8.12E+09	1.20E−02
			140.265	0	712936	2	2	4.07E+09	1.20E−02
F V	$2s^2 2p - 2s^2 4d$	$^2\mathrm{P}^o-^2\mathrm{D}$	*134.494*	*497*	*744026*	6	10	2.83E+10	1.28E−01
			134.542	746	744010	4	4	4.72E+09	1.28E−02
			134.537	746	744036	4	6	2.83E+10	1.15E−01
			134.407	0	744010	2	4	2.36E+10	1.28E−01
F V	$2s^2 2p - 2s2p(^1\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{D}$	*133.167*	*497*	*751434*	6	10	2.32E+09	1.03E−02
			133.216	746	751406	4	4	3.87E+08	1.03E−03
			133.208	746	751452	4	6	2.32E+09	9.25E−03
			133.084	0	751406	2	4	1.94E+09	1.03E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F V	$2s^2 2p - 2s2p(^1\mathrm{P}^o)3p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*132.840*	*497*	*753280*	6	6	8.58E+09	2.27E−02
			133.017	746	752529	4	2	2.84E+09	3.77E−03
			132.885	0	752529	2	2	5.70E+09	1.51E−02
			132.818	746	753656	4	4	7.15E+09	1.89E−02
			132.687	0	753656	2	4	1.43E+09	7.55E−03
F V	$2s^2 2p - 2s2p(^1\mathrm{P}^o)3p$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*131.606*	*497*	760342	6	2	8.42E+09	7.29E−03
			131.649	746	760342	4	2	5.61E+09	7.29E−03
			131.520	0	760342	2	2	2.81E+09	7.30E−03
F V	$2s^2 2p - 2p^2(^3\mathrm{P})3s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*125.491*	*497*	*797366*	6	6	1.09E+09	2.57E−03
			125.579	746	797059	4	2	3.62E+08	4.28E−04
			125.506	746	797519	4	4	9.06E+08	2.14E−03
			125.461	0	797059	2	2	7.25E+08	1.71E−03
			125.389	0	797519	2	4	1.82E+08	8.56E−04
F V	$2s^2 2p - 2s^2 5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*123.736*	*497*	*808671*	6	10	1.37E+10	5.24E−02
			123.775	746	808663	4	4	2.28E+09	5.24E−03
			123.773	746	808677	4	6	1.37E+10	4.72E−02
			123.661	0	808663	2	4	1.14E+10	5.24E−02
F V	$2s^2 2p - 2p^2(^1\mathrm{D})3s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*123.369*	*497*	*811075*	6	10	9.47E+08	3.60E−03
			123.407	746	811075	4	6	9.46E+08	3.24E−03
			123.407	746	811075	4	4	1.58E+08	3.60E−04
			123.293	0	811075	2	4	7.90E+08	3.60E−03
F V	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*120.610*	*497*	*829617*	6	6	1.13E+10	2.47E−02
			120.672	746	829436	4	2	3.77E+09	4.11E−03
			120.633	746	829707	4	4	9.44E+09	2.06E−02
			120.564	0	829436	2	2	7.53E+09	1.64E−02
			120.524	0	829707	2	4	1.89E+09	8.24E−03
F V	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*120.011*	*497*	*833752*	6	10	1.18E+10	4.23E−02
			120.083	746	833501	4	4	1.95E+09	4.22E−03
			120.023	746	833920	4	6	1.18E+10	3.81E−02
			119.976	0	833501	2	4	9.80E+09	4.23E−02
F V	$2s^2 2p - 2s^2 6s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*119.397*	*497*	838036	6	2	8.04E+07	5.73E−05
			119.433	746	838036	4	2	5.36E+07	5.73E−05
			119.327	0	838036	2	2	2.69E+07	5.74E−05
F V	$2s^2 2p - 2s^2 6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*118.624*	*497*	*843497*	6	10	6.80E+09	2.39E−02
			118.659	746	843497	4	6	6.79E+09	2.15E−02
				0		2	4	5.64E+09	2.38E−02
				746		4	4	1.13E+09	2.38E−03
F V	$2s^2 2p - 2p^2(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*117.278*	*497*	*853171*	6	6	3.25E+08	6.71E−04
			117.331	746	853035	4	4	2.70E+08	5.58E−04
			117.275	746	853442	4	2	1.09E+08	1.12E−04
			117.228	0	853035	2	4	5.41E+07	2.23E−04
			117.173	0	853442	2	2	2.18E+08	4.48E−04
F V	$2s^2 2p - 2p^2(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*114.494*	*497*	*873904*	6	10	1.54E+09	5.03E−03
			114.527	746	873904	4	6	1.54E+09	4.53E−03
			114.527	746	873904	4	4	2.56E+08	5.03E−04
			114.429	0	873904	2	4	1.28E+09	5.03E−03
F V	$2s^2 2p - 2p^2(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*113.3100*	*497*	*883032*	6	6	2.33E+09	4.48E−03
			113.3550	746	882930	4	2	7.76E+08	7.47E−04
			113.3354	746	883083	4	4	1.94E+09	3.73E−03
			113.2593	0	882930	2	2	1.55E+09	2.99E−03
			113.2396	0	883083	2	4	3.90E+08	1.50E−03
F VI	$2s^2 - 2s2p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	535.206	0	186844	1	3	3.44E+09	4.43E−01
F VI	$2s^2 - 2s3p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	126.929	0	787844	1	3	6.15E+10	4.46E−01
F VI	$2s^2 - 2p3s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	112.8301	0	886288	1	3	3.82E+08	2.19E−03
F VI	$2s^2 - 2p3d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	104.8873	0	953404	1	3	8.08E+09	4.00E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F VI	$2s^2-2s4p$	^{1}S$-^1$P^o	99.2201	0	1007860	1	3	2.51E+10	1.11E−01
F VI	$2s^2-2s5p$	^{1}S$-^1$P^o	90.9588	0	1099399	1	3	1.23E+10	4.58E−02
F VI	$2s^2-2p4s$	^{1}S$-^1$P^o	89.9009	0	1112336	1	3	2.67E+09	9.69E−03
F VI	$2s^2-2p4d$	^{1}S$-^1$P^o	87.9088	0	1137543	1	3	3.42E+09	1.19E−02
F VI	$2s^2-2s6p$	^{1}S$-^1$P^o	86.6230	0	1154428	1	3	7.20E+09	2.43E−02
F VI	$2s^2-2s7p$	^{1}S$-^1$P^o	84.4260	0	1184469	1	3	5.37E+09	1.72E−02
F VI	$2s^2-2s8p$	^{1}S$-^1$P^o	83.0790	0	1203674	1	3	3.61E+09	1.12E−02
F VI	$2s^2-2p5d$	^{1}S$-^1$P^o	81.6797	0	1224295	1	3	1.87E+09	5.62E−03
F VII	$1s^22s-1s^22p$	^{2}S$-^2$P^o	*885.66*	0	*112911*	2	6	4.88E+08	1.72E−01
			890.79	0	112260	2	2	4.82E+08	5.73E−02
			883.11	0	113236	2	4	4.92E+08	1.15E−01
F VII	$1s^22s-1s^23p$	^{2}S$-^2$P^o	*112.9537*	0	*885319*	2	6	4.98E+10	2.86E−01
			112.9780	0	885128	2	2	4.97E+10	9.52E−02
			112.9415	0	885414	2	4	4.97E+10	1.90E−01
F VII	$1s^22s-1s^24p$	^{2}S$-^2$P^o	*86.7325*	0	*1152971*	2	6	2.31E+10	7.81E−02
			86.7383	0	1152893	2	2	2.31E+10	2.60E−02
			86.7295	0	1153010	2	4	2.31E+10	5.21E−02
F VII	$1s^22s-1s^25p$	^{2}S$-^2$P^o	*78.3580*	0	*1276195*	2	6	1.21E+10	3.33E−02
			78.3606	0	1276152	2	2	1.21E+10	1.11E−02
			78.3566	0	1276216	2	4	1.21E+10	2.22E−02
F VII	$1s^22s-1s^26p$	^{2}S$-^2$P^o	*74.4654*	0	*1342906*	2	6	7.06E+09	1.76E−02
			74.4654	0	1342906	2	4	7.04E+09	1.17E−02
			74.4654	0	1342906	2	2	7.07E+09	5.88E−03
F VII	$1s^22s-1s^27p$	^{2}S$-^2$P^o	*72.3140*	0	*1382858*	2	6	4.46E+09	1.05E−02
			72.3140	0	1382858	2	4	4.47E+09	7.01E−03
			72.3140	0	1382858	2	2	4.46E+09	3.50E−03
F VII	$1s^22s-1s^28p$	^{2}S$-^2$P^o	*70.9800*	0	*1408848*	2	6	3.01E+09	6.81E−03
			70.9800	0	1408848	2	4	3.01E+09	4.54E−03
			70.9800	0	1408848	2	2	3.01E+09	2.27E−03
F VIII	$1s^2-1s2p$	^{1}S$-^1$P^o	16.807	0	5949900	1	3	5.60E+12	7.11E−01
F VIII	$1s^2-1s3p$	^{1}S$-^1$P^o	14.458	0	6916600	1	3	1.57E+12	1.48E−01
F VIII	$1s^2-1s4p$	^{1}S$-^1$P^o	13.781	0	7256400	1	3	6.52E+11	5.57E−02
F VIII	$1s^2-1s5p$	^{1}S$-^1$P^o	13.488	0	7414000	1	3	3.30E+11	2.70E−02
F VIII	$1s^2-1s6p$	^{1}S$-^1$P^o	13.334	0	7499600	1	3	1.90E+11	1.52E−02
F VIII	$1s^2-1s7p$	^{1}S$-^1$P^o	13.244	0	7550600	1	3	1.20E+11	9.43E−03
F VIII	$1s^2-1s8p$	^{1}S$-^1$P^o	13.185	0	7584400	1	3	8.01E+10	6.26E−03
F VIII	$1s^2-1s9p$	^{1}S$-^1$P^o	13.143	0	7608600	1	3	5.62E+10	4.37E−03
F IX	$1s-2p$	^{2}S$-^2$P^o	*14.9841*	0	*6673724.6*	2	6	4.12E+12	4.16E−01
			14.9877	0	[6672119.2]	2	2	4.13E+12	1.39E−01
			14.9823	0	[6674527.3]	2	4	4.12E+12	2.77E−01
F IX	$1s-3p$	^{2}S$-^2$P^o	*12.6438*	0	*7909040.8*	2	6	1.10E+12	7.90E−02
			12.6445	0	[7908565.1]	2	2	1.10E+12	2.63E−02
			12.6434	0	[7909278.7]	2	4	1.10E+12	5.27E−02
F IX	$1s-4p$	^{2}S$-^2$P^o	*11.9884*	0	*8341423.9*	2	6	4.49E+11	2.90E−02
			11.9886	0	[8341223.3]	2	2	4.49E+11	9.67E−03
			11.9882	0	[8341524.3]	2	4	4.48E+11	1.93E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
F IX	$1s-5p$	^{2}S$-^2$P^o	*11.7075*	0	*8541543.1*	2	6	2.25E+11	1.39E−02
			11.7076	0	[8541440.4]	2	2	2.26E+11	4.65E−03
			11.7074	0	[8541594.5]	2	4	2.26E+11	9.30E−03
F IX	$1s-6p$	^{2}S$-^2$P^o	*11.5604*	0	*8650242.3*	2	6	1.30E+11	7.80E−03
			11.5604	0	[8650182.8]	2	2	1.30E+11	2.60E−03
			11.5603	0	[8650272.0]	2	4	1.30E+11	5.20E−03
F IX	$1s-7p$	^{2}S$-^2$P^o	*11.4734*	0	*8715780.5*	2	6	8.14E+10	4.82E−03
			11.4735	0	[8715743.0]	2	2	8.11E+10	1.60E−03
			11.4734	0	[8715799.2]	2	4	8.13E+10	3.21E−03
F IX	$1s-8p$	^{2}S$-^2$P^o	*11.4177*	0	*8758315.1*	2	6	5.44E+10	3.19E−03
			11.4178	0	[8758290.0]	2	2	5.42E+10	1.06E−03
			11.4177	0	[8758327.6]	2	4	5.42E+10	2.12E−03
F IX	$1s-9p$	^{2}S$-^2$P^o	*11.3798*	0	*8787475.5*	2	6	3.81E+10	2.22E−03
			11.3799	0	[8787457.8]	2	2	3.80E+10	7.38E−04
			11.3798	0	[8787484.3]	2	4	3.81E+10	1.48E−03
F IX	$1s-10p$	^{2}S$-^2$P^o	*11.3529*	0	*8808332.9*	2	6	2.76E+10	1.60E−03
			11.3529	0	[8808339.4]	2	4	2.77E+10	1.07E−03
			11.3529	0	[8808320.1]	2	2	2.77E+10	5.35E−04
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{3/2})3s$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	743.7195	0	134459.2873	1	3	4.86E+07	1.21E−02
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{1/2})3s$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{1}{2}\right]^o$	735.8963	0	135888.7173	1	3	6.12E+08	1.49E−01
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{3/2})4s$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	629.7388	0	158795.9924	1	3	4.80E+07	8.56E−03
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{1/2})4s$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{1}{2}\right]^o$	626.8232	0	159534.6196	1	3	7.41E+07	1.31E−02
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{3/2})3d$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{1}{2}\right]^o$	619.1024	0	161524.1739	1	3	3.30E+07	5.69E−03
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{3/2})3d$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	618.6717	0	161636.6162	1	3	9.29E+07	1.60E−02
Ne I	$2s^22p^6-2p^5(^2\mathrm{P}^o_{1/2})3s$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{3}{2}\right]^o$	615.6283	0	162435.6675	1	3	3.80E+07	6.48E−03
Ne II	$2s^22p^5-2s2p^6$	$^2\mathrm{P}^o-^2\mathrm{S}$	*461.2812*	*260.11*	217047.61	6	2	8.05E+09	8.56E−02
			462.3908	780.34	217047.61	2	2	2.66E+09	8.54E−02
			460.7284	0	217047.61	4	2	5.39E+09	8.57E−02
Ne II	$2s^22p^5-2p^4(^3\mathrm{P})3s$	$^2\mathrm{P}^o-^2\mathrm{P}$	*446.3668*	*260.11*	*224291.10*	6	6	3.88E+09	1.16E−01
			447.8146	780.34	224087.02	2	4	6.47E+08	3.89E−02
			446.5902	780.34	224699.27	2	2	2.60E+09	7.78E−02
			446.2552	0	224087.02	4	4	3.26E+09	9.74E−02
			445.0393	0	224699.27	4	2	1.31E+09	1.95E−02
Ne II	$2s^22p^5-2p^4(^1\mathrm{D})3s$	$^2\mathrm{P}^o-^2\mathrm{D}$	*406.2805*	*260.11*	*246395.47*	6	10	1.58E+09	6.51E−02
			407.1377	780.34	246397.49	2	4	1.31E+09	6.50E−02
			405.8538	0	246394.13	4	6	1.58E+09	5.87E−02
			405.8483	0	246397.49	4	4	2.64E+08	6.52E−03
Ne II	$2s^22p^5-2p^4(^1\mathrm{S})3s$	$^2\mathrm{P}^o-^2\mathrm{S}$	*361.7722*	*260.11*	276677.13	6	2	1.50E+09	9.79E−03
			362.4544	780.34	276677.13	2	2	4.97E+08	9.78E−03
			361.4321	0	276677.13	4	2	1.00E+09	9.80E−03
Ne II	$2s^22p^5-2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o-^2\mathrm{D}$	*357.0272*	*260.11*	*280350.81*	6	10	3.48E+09	1.11E−01
			357.5346	780.34	280473.58	2	4	2.87E+09	1.10E−01
			356.8001	0	280268.96	4	6	3.47E+09	9.94E−02
			356.5398	0	280473.58	4	4	5.82E+08	1.11E−02
Ne II	$2s^22p^5-2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o-^2\mathrm{P}$	*355.4533*	*260.11*	*281591.04*	6	6	2.07E+09	3.92E−02
			356.4399	780.34	281332.55	2	2	1.37E+09	2.61E−02
			355.9480	780.34	281720.28	2	4	3.45E+08	1.31E−02
			355.4512	0	281332.55	4	2	6.91E+08	6.54E−03
			354.9620	0	281720.28	4	4	1.73E+09	3.27E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*353.0414*	*260.11*	*283513.04*	6	6	8.08E+08	1.51E−02
			353.9297	780.34	283322.35	2	4	1.33E+08	5.01E−03
			353.2145	780.34	283894.41	2	2	5.35E+08	1.00E−02
			352.9549	0	283322.35	4	4	6.69E+08	1.25E−02
			352.2436	0	283894.41	4	2	2.71E+08	2.52E−03
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*331.0218*	*260.11*	*302355.00*	6	10	1.54E+09	4.22E−02
			331.5149	780.34	302425.87	2	4	1.28E+09	4.21E−02
			330.7887	0	302307.75	4	6	1.54E+09	3.80E−02
			330.6595	0	302425.87	4	4	2.57E+08	4.22E−03
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*330.2047*	*260.11*	*303102.54*	6	6	6.79E+08	1.11E−02
			331.0694	780.34	302831.80	2	2	4.50E+08	7.40E−03
			330.6249	780.34	303237.91	2	4	1.13E+08	3.71E−03
			330.2163	0	302831.80	4	2	2.26E+08	1.85E−03
			329.7741	0	303237.91	4	4	5.70E+08	9.29E−03
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*329.0886*	*260.11*	*304129.61*	6	6	2.93E+08	4.76E−03
			329.8219	780.34	303974.29	2	4	4.84E+07	1.58E−03
			329.3158	780.34	304440.24	2	2	1.95E+08	3.17E−03
			328.9752	0	303974.29	4	4	2.45E+08	3.97E−03
			328.4717	0	304440.24	4	2	9.83E+07	7.95E−04
Ne II	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*327.5339*	*260.11*	*305572.05*	6	6	2.62E+09	4.22E−02
			328.0984	780.34	305566.94	2	4	4.37E+08	1.41E−02
			328.0819	780.34	305582.27	2	2	1.74E+09	2.81E−02
			327.2605	0	305566.94	4	4	2.19E+09	3.51E−02
			327.2441	0	305582.27	4	2	8.77E+08	7.04E−03
Ne II	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*327.0636*	*260.11*	306011.07	6	2	4.45E+09	2.38E−02
			327.6210	780.34	306011.07	2	2	1.48E+09	2.38E−02
			326.7856	0	306011.07	4	2	2.97E+09	2.38E−02
Ne II	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*326.8069*	*260.11*	*306251.16*	6	10	1.47E+09	3.93E−02
			327.3511	780.34	306262.77	2	4	1.22E+09	3.93E−02
			326.5376	0	306243.42	4	6	1.48E+09	3.55E−02
			326.5170	0	306262.77	4	4	2.46E+08	3.94E−03
Ne II	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*324.8427*	*260.11*	*308101.41*	6	10	1.90E+08	5.00E−03
			325.3924	780.34	308101.61	2	4	1.57E+08	4.99E−03
			324.5686	0	308101.27	4	6	1.90E+08	4.50E−03
			324.5682	0	308101.61	4	4	3.17E+07	5.00E−04
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*319.8439*	*260.11*	*312912.64*	6	10	1.12E+09	2.87E−02
			320.7251	780.34	312573.79	2	4	9.30E+08	2.87E−02
			319.9245	0	312573.79	4	4	1.87E+08	2.87E−03
			319.3475	0	313138.54	4	6	1.13E+09	2.59E−02
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*319.4626*	*260.11*	*313285.77*	6	6	7.19E+08	1.10E−02
			320.2809	780.34	313006.22	2	2	4.75E+08	7.31E−03
			319.8514	780.34	313425.54	2	4	1.19E+08	3.66E−03
			319.4825	0	313006.22	4	2	2.39E+08	1.83E−03
			319.0550	0	313425.54	4	4	6.01E+08	9.17E−03
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*318.9647*	*260.11*	*313774.43*	6	6	1.97E+08	3.01E−03
			319.6197	780.34	313652.17	2	4	3.26E+07	1.00E−03
			319.2455	780.34	314018.94	2	2	1.31E+08	2.00E−03
			318.8245	0	313652.17	4	4	1.65E+08	2.51E−03
			318.4521	0	314018.94	4	2	6.60E+07	5.02E−04
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*314.7226*	*260.11*	*318000.22*	6	10	6.30E+08	1.56E−02
			314.4652	0	318000.22	4	6	6.30E+08	1.40E−02
				780.34		2	4	5.25E+08	1.56E−02
				0		4	4	1.05E+08	1.56E−03
Ne II	$2s^2 2p^5 - 2p^4(^3\mathrm{P})7s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*313.7944*	*260.11*	*318940.08*	6	6	1.12E+08	1.65E−03
			314.3075	780.34	318940.08	2	4	1.86E+07	5.50E−04
			313.5385	0	318940.08	4	4	9.36E+07	1.38E−03
				780.34		2	2	7.45E+07	1.10E−03
				0		4	2	3.73E+07	2.75E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne II	$2s^2 2p^5 - 2p^4(^1S)4s$:	$^2P^o - ^2S$	*295.3960*	*260.11*	338788.76	6	2	1.77E+09	7.70E−03
			295.8506	780.34	338788.76	2	2	5.86E+08	7.69E−03
			295.1692	0	338788.76	4	2	1.18E+09	7.71E−03
Ne III	$2s^2 2p^4 - 2s2p^5$	$^3P - ^3P^o$	*489.5556*	*316.8*	*204583.7*	9	9	4.87E+09	1.75E−01
			491.0508	643.3	204288.2	3	5	1.20E+09	7.26E−02
			490.3138	921.5	204872.5	1	3	1.62E+09	1.75E−01
			489.6459	643.3	204872.5	3	3	1.21E+09	4.36E−02
			489.5045	0	204288.2	5	5	3.65E+09	1.31E−01
			488.8742	643.3	205194.9	3	1	4.87E+09	5.82E−02
			488.1085	0	204872.5	5	3	2.04E+09	4.38E−02
Ne III	$2s^2 2p^4 - 2p^3(^4S^o)3s$	$^3P - ^3S^o$	*313.3688*	*316.8*	319429.66	9	3	1.11E+10	5.46E−02
			313.9637	921.5	319429.66	1	3	1.23E+09	5.45E−02
			313.6897	643.3	319429.66	3	3	3.69E+09	5.45E−02
			313.0580	0	319429.66	5	3	6.19E+09	5.46E−02
Ne III	$2s^2 2p^4 - 2p^3(^2D^o)3s$	$^3P - ^3D^o$	*283.4188*	*316.8*	*353151.61*	9	15	3.66E+09	7.35E−02
			283.8813	921.5	353181.42	1	3	2.03E+09	7.34E−02
			283.6734	643.3	353161.31	3	5	2.74E+09	5.51E−02
			283.6573	643.3	353181.42	3	3	1.53E+09	1.84E−02
			283.1803	0	353131.90	5	7	3.67E+09	6.18E−02
			283.1567	0	353161.31	5	5	9.15E+08	1.10E−02
			283.1406	0	353181.42	5	3	1.02E+08	7.35E−04
Ne III	$2s^2 2p^4 - 2p^3(^2P^o)3s$	$^3P - ^3P^o$	*267.2548*	*316.8*	*374491.57*	9	9	3.81E+09	4.08E−02
			267.6901	921.5	374487.84	1	3	1.26E+09	4.07E−02
			267.4909	643.3	374487.84	3	3	9.51E+08	1.02E−02
			267.4905	643.3	374488.40	3	1	3.80E+09	1.36E−02
			267.4861	643.3	374494.45	3	5	9.51E+08	1.70E−02
			267.0314	0	374487.84	5	3	1.59E+09	1.02E−02
			267.0267	0	374494.45	5	5	2.86E+09	3.06E−02
Ne III	$2s^2 2p^4 - 2p^3(^4S^o)3d$	$^3P - ^3D^o$	*251.3388*	*316.8*	*398186.17*	9	15	1.11E+10	1.76E−01
			251.7274	921.5	398176.56	1	3	6.14E+09	1.75E−01
			251.5513	643.3	398176.56	3	3	4.62E+09	4.38E−02
			251.5484	643.3	398181.18	3	5	8.35E+09	1.32E−01
			251.1449	0	398176.56	5	3	3.10E+08	1.76E−03
			251.1420	0	398181.18	5	5	2.78E+09	2.63E−02
			251.1340	0	398193.86	5	7	1.11E+10	1.47E−01
Ne III	$2s^2 2p^4 - 2p^3(^4S^o)4s$	$^3P - ^3S^o$	*238.3740*	*316.8*	419825.74	9	3	3.98E+09	1.13E−02
			238.7180	921.5	419825.74	1	3	4.41E+08	1.13E−02
			238.5596	643.3	419825.74	3	3	1.32E+09	1.13E−02
			238.1941	0	419825.74	5	3	2.21E+09	1.13E−02
Ne III	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3D^o$	*229.0637*	*316.8*	*436876.66*	9	15	6.11E+09	8.01E−02
			229.3452	921.5	436945.50	1	3	3.38E+09	8.00E−02
			229.2227	643.3	436900.20	3	5	4.58E+09	6.01E−02
			229.1989	643.3	436945.50	3	3	2.55E+09	2.01E−02
			228.9218	0	436830.34	5	7	6.13E+09	6.74E−02
			228.8852	0	436900.20	5	5	1.53E+09	1.20E−02
			228.8615	0	436945.50	5	3	1.70E+08	8.02E−04
Ne III	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3P^o$	*227.6273*	*316.8*	*439631.38*	9	9	1.92E+10	1.49E−01
			227.9090	921.5	439693.13	1	3	6.38E+09	1.49E−01
			227.8277	643.3	439571.40	3	5	4.77E+09	6.19E−02
			227.7646	643.3	439693.13	3	3	4.77E+09	3.71E−02
			227.7371	643.3	439746.06	3	1	1.91E+10	4.95E−02
			227.4943	0	439571.40	5	5	1.44E+10	1.12E−01
			227.4313	0	439693.13	5	3	7.99E+09	3.72E−02
Ne III	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3S^o$	*227.4107*	*316.8*	440049.92	9	3	1.90E+10	4.92E−02
			227.7238	921.5	440049.92	1	3	2.11E+09	4.92E−02
			227.5796	643.3	440049.92	3	3	6.34E+09	4.92E−02
			227.2469	0	440049.92	5	3	1.06E+10	4.93E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne III	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*223.2534*	*316.8*	*448238.34*	9	15	6.58E+09	8.20E−02
			223.5638	921.5	448221.08	1	3	3.64E+09	8.19E−02
			223.4249	643.3	448221.08	3	3	2.74E+09	2.05E−02
			223.4193	643.3	448232.22	3	5	4.92E+09	6.14E−02
			223.1042	0	448221.08	5	3	1.83E+08	8.20E−04
			223.0986	0	448232.22	5	5	1.65E+09	1.23E−02
			223.0897	0	448250.11	5	7	6.60E+09	6.89E−02
Ne III	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)5s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*218.5965*	*316.8*	457780.76	9	3	1.97E+09	4.71E−03
			218.8858	921.5	457780.76	1	3	2.18E+08	4.70E−03
			218.7526	643.3	457780.76	3	3	6.57E+08	4.71E−03
			218.4452	0	457780.76	5	3	1.10E+09	4.71E−03
Ne III	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*218.4996*	*316.8*	*457983.55*	9	15	7.35E+09	8.77E−02
			218.7809	921.5	457999.84	1	3	4.07E+09	8.76E−02
			218.6643	643.3	457965.29	3	5	5.50E+09	6.57E−02
			218.6478	643.3	457999.84	3	3	3.06E+09	2.19E−02
			218.3572	0	457965.29	5	5	1.85E+09	1.32E−02
			218.3456	0	457989.62	5	7	7.37E+09	7.37E−02
			218.3407	0	457999.84	5	3	2.05E+08	8.77E−04
Ne III	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*218.3068*	*316.8*	*458387.81*	9	9	5.60E+09	4.00E−02
			218.6211	921.5	458333.86	1	3	1.86E+09	4.00E−02
			218.5120	643.3	458284.17	3	1	5.62E+09	1.34E−02
			218.4882	643.3	458333.86	3	3	1.39E+09	9.97E−03
			218.4371	643.3	458440.91	3	5	1.40E+09	1.67E−02
			218.1816	0	458333.86	5	3	2.33E+09	9.99E−03
			218.1306	0	458440.91	5	5	4.22E+09	3.01E−02
Ne III	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*217.4804*	*316.8*	*460128.37*	9	15	2.50E+09	2.96E−02
			217.7740	921.5	460113.16	1	3	1.39E+09	2.96E−02
			217.6421	643.3	460113.16	3	3	1.04E+09	7.40E−03
			217.6365	643.3	460125.15	3	5	1.87E+09	2.21E−02
			217.3378	0	460113.16	5	3	6.99E+07	2.97E−04
			217.3322	0	460125.15	5	5	6.27E+08	4.44E−03
			217.3265	0	460137.19	5	7	2.51E+09	2.49E−02
Ne III	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)5d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*212.3762*	*316.8*	*471179.4*	9	15	4.03E+09	4.54E−02
			212.5236	643.3	471179.2	3	5	3.02E+09	3.41E−02
			212.2335	0	471179.2	5	5	1.01E+09	6.83E−03
			212.2333	0	471179.52	5	7	4.04E+09	3.82E−02
				921.5		1	3	2.24E+09	4.54E−02
				643.3		3	3	1.69E+09	1.14E−02
				0		5	3	1.12E+08	4.54E−04
Ne III	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*208.5454*	*316.8*	*479828.65*	9	9	1.81E+09	1.18E−02
			208.8099	921.5	479825.95	1	3	6.02E+08	1.18E−02
			208.6887	643.3	479825.95	3	3	4.49E+08	2.93E−03
			208.6870	643.3	479829.90	3	5	4.50E+08	4.90E−03
			208.6867	643.3	479830.47	3	1	1.80E+09	3.92E−03
			208.4089	0	479825.95	5	3	7.52E+08	2.94E−03
			208.4072	0	479829.90	5	5	1.35E+09	8.82E−03
Ne III	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)5s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*200.9268*	*316.8*	*498010.62*	9	15	6.28E+08	6.34E−03
			201.1600	921.5	498038.11	1	3	3.48E+08	6.33E−03
			201.0552	643.3	498019.11	3	5	4.71E+08	4.76E−03
			201.0475	643.3	498038.11	3	3	2.62E+08	1.59E−03
			200.8061	0	497992.77	5	7	6.30E+08	5.33E−03
			200.7955	0	498019.11	5	5	1.57E+08	9.52E−04
			200.7878	0	498038.11	5	3	1.75E+07	6.34E−05
Ne IV	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*542.823*	0	*184222*	4	12	1.76E+09	2.33E−01
			543.892	0	183860	4	6	1.74E+09	1.16E−01
			542.073	0	184477	4	4	1.77E+09	7.79E−02
			541.128	0	184799	4	2	1.78E+09	3.90E−02
Ne IV	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*208.634*	0	*479309*	4	12	6.74E+09	1.32E−01
			208.899	0	478701	4	2	6.76E+09	2.21E−02
			208.732	0	479083	4	4	6.77E+09	4.42E−02
			208.480	0	479662	4	6	6.78E+09	6.63E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne IV	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*172.567*	0	*579485*	4	12	6.92E+10	9.27E−01
			172.620	0	579307	4	6	6.91E+10	4.63E−01
			172.525	0	579626	4	4	6.92E+10	3.09E−01
			172.492	0	579737	4	2	6.90E+10	1.54E−01
Ne IV	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*157.717*	0	*634047*	4	12	4.07E+09	4.55E−02
			157.862	0	633465	4	2	4.06E+09	7.59E−03
			157.781	0	633790	4	4	4.05E+09	1.51E−02
			157.626	0	634413	4	6	4.08E+09	2.28E−02
Ne IV	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*148.843*	0	*671848*	4	12	2.90E+10	2.89E−01
			148.942	0	671402	4	6	2.91E+10	1.45E−01
			148.787	0	672102	4	4	2.91E+10	9.65E−02
			148.660	0	672676	4	2	2.91E+10	4.82E−02
Ne IV	$2s^2 2p^3 - 2p^2(^3\mathrm{P})5s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*144.106*	0	*693933*	4	12	9.24E+08	8.63E−03
			144.278	0	693106	4	2	9.23E+08	1.44E−03
			144.151	0	693717	4	4	9.24E+08	2.88E−03
			144.019	0	694353	4	6	9.26E+08	4.32E−03
Ne V	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*571.035*	*756*	*175876*	9	15	1.13E+09	9.23E−02
			572.338	1112	175834	5	7	1.13E+09	7.74E−02
			572.105	1112	175905	5	5	2.81E+08	1.38E−02
			572.033	1112	175927	5	3	3.13E+07	9.22E−04
			569.830	414	175905	3	5	8.55E+08	6.94E−02
			569.758	414	175927	3	3	4.75E+08	2.31E−02
			568.418	0	175927	1	3	6.39E+08	9.28E−02
Ne V	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*482.148*	*756*	*208161*	9	9	3.16E+09	1.10E−01
			482.987	1112	208157	5	5	2.34E+09	8.19E−02
			482.987	1112	208157	5	3	1.30E+09	2.73E−02
			481.364	414	208157	3	3	7.89E+08	2.74E−02
			481.364	414	208157	3	5	7.89E+08	4.57E−02
			481.281	414	208193	3	1	3.16E+09	3.66E−02
			480.407	0	208157	1	3	1.06E+09	1.10E−01
Ne V	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*358.926*	*756*	279365	9	3	2.16E+10	1.39E−01
			359.385	1112	279365	5	3	1.19E+10	1.38E−01
			358.486	414	279365	3	3	7.21E+09	1.39E−01
			357.955	0	279365	1	3	2.41E+09	1.39E−01
Ne V	$2s^2 2p^2 - 2s^2 2p3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*167.693*	*756*	*597083*	9	9	1.81E+10	7.63E−02
			167.922	1112	596626	5	3	7.53E+09	1.91E−02
			167.830	414	596254	3	1	1.80E+10	2.54E−02
			167.726	414	596626	3	3	4.53E+09	1.91E−02
			167.670	1112	597523	5	5	1.36E+10	5.73E−02
			167.609	0	596626	1	3	6.04E+09	7.63E−02
			167.474	414	597523	3	5	4.54E+09	3.18E−02
Ne V	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*143.316*	*756*	*698517*	9	15	1.31E+11	6.73E−01
			143.448	1112	698231	5	3	3.63E+09	6.72E−03
			143.416	1112	698382	5	5	3.28E+10	1.01E−01
			143.344	1112	698735	5	7	1.31E+11	5.66E−01
			143.304	414	698231	3	3	5.46E+10	1.68E−01
			143.273	414	698382	3	5	9.85E+10	5.05E−01
			143.219	0	698231	1	3	7.29E+10	6.73E−01
Ne V	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*142.615*	*756*	*701945*	9	9	7.44E+10	2.27E−01
			142.724	1112	701765	5	5	5.57E+10	1.70E−01
			142.661	1112	702074	5	3	3.10E+10	5.67E−02
			142.582	414	701765	3	5	1.86E+10	9.45E−02
			142.519	414	702074	3	3	1.86E+10	5.67E−02
			142.441	414	702459	3	1	7.46E+10	7.56E−02
			142.435	0	702074	1	3	2.49E+10	2.27E−01
Ne V	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*135.795*	*756*	737160	9	3	2.91E+10	2.68E−02
			135.861	1112	737160	5	3	1.61E+10	2.68E−02
			135.732	414	737160	3	3	9.70E+09	2.68E−02
			135.656	0	737160	1	3	3.24E+09	2.68E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne V	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*132.007*	*756*	*758289*	9	15	2.41E+10	1.05E−01
			132.111	1112	758050	5	5	6.04E+09	1.58E−02
			132.040	1112	758460	5	7	2.43E+10	8.88E−02
			131.990	414	758050	3	5	1.82E+10	7.93E−02
				0		1	3	1.34E+10	1.05E−01
				414		3	3	1.01E+10	2.63E−02
				1112		5	3	6.70E+08	1.05E−03
Ne V	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{P}^o$	*130.700*	*756*	*765865*	9	9	2.03E+10	5.19E−02
			130.800	1112	765640	5	3	8.38E+09	1.29E−02
			130.738	1112	766000	5	5	1.52E+10	3.89E−02
			130.680	414	765640	3	3	5.04E+09	1.29E−02
			130.619	414	766000	3	5	5.07E+09	2.16E−02
			130.610	0	765640	1	3	6.76E+09	5.19E−02
				414		3	1	2.01E+10	1.72E−02
Ne V	$2s^2 2p^2 - 2s^2 2p4s$	$^3\mathrm{P}-^3\mathrm{P}^o$	*125.862*	*756*	*795279*	9	9	7.71E+09	1.83E−02
			125.918	1112	795279	5	5	5.76E+09	1.37E−02
			125.918	1112	795279	5	3	3.20E+09	4.57E−03
			125.808	414	795279	3	3	1.93E+09	4.58E−03
			125.808	414	795279	3	5	1.93E+09	7.63E−03
			125.808	414	795279	3	1	7.72E+09	6.11E−03
			125.742	0	795279	1	3	2.57E+09	1.83E−02
Ne V	$2s^2 2p^2 - 2s^2 2p4d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*118.911*	*756*	*841721*	9	15	5.04E+10	1.78E−01
			119.010	1112	841380	5	7	5.01E+10	1.49E−01
			118.919	1112	842020	5	5	1.26E+10	2.67E−02
			118.919	1112	842020	5	3	1.40E+09	1.78E−03
			118.820	414	842020	3	5	3.77E+10	1.33E−01
			118.820	414	842020	3	3	2.10E+10	4.45E−02
			118.762	0	842020	1	3	2.81E+10	1.78E−01
Ne V	$2s^2 2p^2 - 2s^2 2p4d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*118.743*	*756*	*842914*	9	9	2.26E+10	4.78E−02
			118.793	1112	842914	5	5	1.69E+10	3.58E−02
			118.793	1112	842914	5	3	9.37E+09	1.19E−02
			118.694	414	842914	3	3	5.63E+09	1.19E−02
			118.694	414	842914	3	5	5.65E+09	1.99E−02
			118.694	414	842914	3	1	2.26E+10	1.59E−02
			118.636	0	842914	1	3	7.55E+09	4.78E−02
Ne V	$2s^2 2p^2 - 2s^2 2p5d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*110.377*	*756*	*906740*	9	15	2.33E+10	7.10E−02
			110.421	1112	906740	5	7	2.33E+10	5.96E−02
				414		3	5	1.75E+10	5.32E−02
				0		1	3	1.29E+10	7.09E−02
				1112		5	5	5.80E+09	1.06E−02
				414		3	3	9.69E+09	1.77E−02
				1112		5	3	6.47E+08	7.09E−04
Ne V	$2s^2 2p^2 - 2s^2 2p5d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*110.316*	*756*	*907240*	9	9	1.33E+10	2.42E−02
			110.360	1112	907240	5	5	9.97E+09	1.82E−02
			110.360	1112	907240	5	3	5.54E+09	6.07E−03
			110.275	414	907240	3	3	3.33E+09	6.07E−03
			110.275	414	907240	3	5	3.32E+09	1.01E−02
			110.275	414	907240	3	1	1.33E+10	8.09E−03
			110.224	0	907240	1	3	4.45E+09	2.43E−02
Ne V	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})4p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*108.048*	*756*	*926270*	9	15	1.12E+10	3.27E−02
			108.090	1112	926270	5	5	2.79E+09	4.89E−03
			108.008	414	926270	3	5	8.40E+09	2.45E−02
				1112		5	7	1.11E+10	2.73E−02
				0		1	3	6.21E+09	3.26E−02
				414		3	3	4.65E+09	8.14E−03
				1112		5	3	3.10E+08	3.26E−04
Ne VI	$2s^2 2p - 2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{D}$	*561.387*	*873*	*179004*	6	10	1.15E+09	9.02E−02
			562.803	1310	178992	4	6	1.14E+09	8.10E−02
			562.711	1310	179021	4	4	1.90E+08	9.00E−03
			558.594	0	179021	2	4	9.69E+08	9.07E−02
Ne VI	$2s^2 2p - 2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{S}$	*434.821*	*873*	230853	6	2	5.32E+09	5.03E−02
			435.648	1310	230853	4	2	3.54E+09	5.03E−02
			433.176	0	230853	2	2	1.80E+09	5.05E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne VI	$2s^2 2p - 2s2p^2$	^{2}P^o – ^{2}P	*401.662*	*873*	*249839*	6	6	1.04E+10	2.52E−01
			403.255	1310	249292	4	2	3.43E+09	4.18E−02
			401.926	1310	250112	4	4	8.67E+09	2.10E−01
			401.136	0	249292	2	2	6.96E+09	1.68E−01
			399.821	0	250112	2	4	1.76E+09	8.44E−02
Ne VI	$2s^2 2p - 2s^2 3s$	^{2}P^o – ^{2}S	*138.555*	*873*	722610	6	2	2.95E+10	2.83E−02
			138.639	1310	722610	4	2	1.96E+10	2.83E−02
			138.387	0	722610	2	2	9.89E+09	2.84E−02
Ne VI	$2s^2 2p - 2s^2 3d$	^{2}P^o – ^{2}D	*122.619*	*873*	*816405*	6	10	1.52E+11	5.71E−01
			122.685	1310	816405	4	6	1.52E+11	5.14E−01
			122.685	1310	816405	4	4	2.53E+10	5.71E−02
			122.488	0	816405	2	4	1.27E+11	5.72E−01
Ne VI	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o – ^{2}P	*114.20*	*873*	*876500*	6	6	5.32E+10	1.04E−01
			114.30	1310	876190	4	2	1.76E+10	1.72E−02
			114.24	1310	876660	4	4	4.42E+10	8.65E−02
			114.13	0	876190	2	2	3.54E+10	6.92E−02
			114.07	0	876660	2	4	8.87E+09	3.46E−02
Ne VI	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o – ^{2}D	*111.147*	*873*	*900580*	6	10	5.44E+10	1.68E−01
			111.261	1310	900100	4	4	9.05E+09	1.68E−02
			111.162	1310	900900	4	6	5.47E+10	1.52E−01
			111.099	0	900100	2	4	4.54E+10	1.68E−01
Ne VI	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o – ^{2}S	*109.411*	*873*	914860	6	2	4.88E+10	2.92E−02
			109.463	1310	914860	4	2	3.25E+10	2.92E−02
			109.306	0	914860	2	2	1.64E+10	2.93E−02
Ne VI	$2s^2 2p - 2s2p(^1\mathrm{P}^o)3p$	^{2}P^o – ^{2}D	*101.501*	*873*	*986080*	6	10	7.65E+09	1.97E−02
			101.555	1310	986000	4	4	1.27E+09	1.97E−03
			101.540	1310	986140	4	6	7.63E+09	1.77E−02
			101.420	0	986000	2	4	6.39E+09	1.97E−02
Ne VI	$2s^2 2p - 2s2p(^1\mathrm{P}^o)3p$	^{2}P^o – ^{2}P	*101.309*	*873*	*987950*	6	6	1.81E+10	2.78E−02
			101.354	1310	987950	4	4	1.51E+10	2.32E−02
			101.220	0	987950	2	4	3.02E+09	9.29E−03
				0		2	2	1.21E+10	1.86E−02
				1310		4	2	6.03E+09	4.64E−03
Ne VI	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*98.215*	*873*	*1019050*	6	10	5.06E+10	1.22E−01
			98.257	1310	1019050	4	6	5.07E+10	1.10E−01
			98.257	1310	1019050	4	4	8.43E+09	1.22E−02
			98.131	0	1019050	2	4	4.23E+10	1.22E−01
Ne VI	$2s^2 2p - 2p^2(^1\mathrm{D})3s$	^{2}P^o – ^{2}D	*94.755*	*873*	*1056230*	6	10	4.59E+07	1.03E−04
			94.794	1310	1056230	4	6	4.58E+07	9.25E−05
			94.794	1310	1056230	4	4	7.65E+06	1.03E−05
			94.676	0	1056230	2	4	3.83E+07	1.03E−04
Ne VI	$2s^2 2p - 2s^2 5d$	^{2}P^o – ^{2}D	*90.021*	*873*	*1111730*	6	10	2.76E+10	5.59E−02
			90.056	1310	1111730	4	6	2.76E+10	5.04E−02
			90.056	1310	1111730	4	4	4.60E+09	5.59E−03
			89.950	0	1111730	2	4	2.30E+10	5.59E−02
Ne VI	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$:	^{2}P^o – ^{2}D	*89.066*	*873*	*1123640*	6	10	2.32E+10	4.60E−02
			89.100	1310	1123640	4	6	2.32E+10	4.14E−02
				0		2	4	1.92E+10	4.57E−02
				1310		4	4	3.84E+09	4.57E−03
Ne VI	$2s^2 2p - 2s^2 6d$	^{2}P^o – ^{2}D	*86.1544*	*873*	*1161580*	6	10	1.40E+10	2.60E−02
			86.1868	1310	1161580	4	6	1.40E+10	2.34E−02
			86.1868	1310	1161580	4	4	2.33E+09	2.60E−03
			86.0896	0	1161580	2	4	1.17E+10	2.61E−02
Ne VII	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	465.220	0	214952	1	3	4.00E+09	3.89E−01
Ne VII	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	97.495	0	1025690	1	3	1.14E+11	4.86E−01
Ne VII	$2s^2 - 2p3s$	^{1}S – ^{1}P^o	87.2235	0	1146480	1	3	1.73E+09	5.92E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne VII	$2s^2-2p3d$	^{1}S$-^1$P^o	82.0082	0	1219390	1	3	1.20E+10	3.64E−02
Ne VII	$2s^2-2s4p$	^{1}S$-^1$P^o	75.7650	0	1319870	1	3	4.88E+10	1.26E−01
Ne VII	$2s^2-2p4s$	^{1}S$-^1$P^o	69.2972	0	1443060	1	3	5.42E+09	1.17E−02
Ne VII	$2s^2-2p4d$	^{1}S$-^1$P^o	67.7870	0	1475210	1	3	2.45E+09	5.06E−03
Ne VII	$2s^2-2s6p$	^{1}S$-^1$P^o	65.850	0	1518600	1	3	1.50E+10	2.93E−02
Ne VIII	$1s^22s-1s^22p$	^{2}S$-^2$P^o	*773.6858*	0	*129251.4*	2	6	5.68E+08	1.53E−01
			780.3240	0	128151.9	2	2	5.53E+08	5.05E−02
			770.4089	0	129801.2	2	4	5.79E+08	1.03E−01
Ne VIII	$1s^22s-1s^23p$	^{2}S$-^2$P^o	*88.092*	0	*1135180*	2	6	8.65E+10	3.02E−01
			88.117	0	1134860	2	2	8.59E+10	1.00E−01
			88.079	0	1135340	2	4	8.64E+10	2.01E−01
Ne VIII	$1s^22s-1s^24p$	^{2}S$-^2$P^o	*67.3818*	0	*1484080*	2	6	3.98E+10	8.12E−02
			67.3818	0	1484080	2	4	3.97E+10	5.41E−02
			67.3818	0	1484080	2	2	3.98E+10	2.71E−02
Ne VIII	$1s^22s-1s^25p$	^{2}S$-^2$P^o	*60.7958*	0	*1644850*	2	6	2.08E+10	3.45E−02
			60.7958	0	1644850	2	4	2.08E+10	2.30E−02
			60.7958	0	1644850	2	2	2.08E+10	1.15E−02
Ne VIII	$1s^22s-1s^26p$	^{2}S$-^2$P^o	*57.7471*	0	*1731690*	2	6	1.21E+10	1.81E−02
			57.7471	0	1731690	2	4	1.21E+10	1.21E−02
			57.7471	0	1731690	2	2	1.21E+10	6.04E−03
Ne VIII	$1s^22s-1s^27p$	^{2}S$-^2$P^o	*56.0431*	0	*1784340*	2	6	7.65E+09	1.08E−02
			56.0431	0	1784340	2	4	7.66E+09	7.21E−03
			56.0431	0	1784340	2	2	7.67E+09	3.61E−03
Ne VIII	$1s^22s-1s^28p$	^{2}S$-^2$P^o	*55.0100*	0	*1817850*	2	6	5.15E+09	7.01E−03
			55.0100	0	1817850	2	4	5.16E+09	4.68E−03
			55.0100	0	1817850	2	2	5.14E+09	2.33E−03
Ne VIII	$1s^22s-1s^29p$	^{2}S$-^2$P^o	*54.309*	0	*1841300*	2	6	3.61E+09	4.79E−03
			54.309	0	1841300	2	4	3.62E+09	3.20E−03
			54.309	0	1841300	2	2	3.60E+09	1.59E−03
Ne VIII	$1s^22s-1s^210p$	^{2}S$-^2$P^o	*53.810*	0	*1858400*	2	6	2.64E+09	3.44E−03
			53.810	0	1858400	2	4	2.63E+09	2.28E−03
			53.810	0	1858400	2	2	2.63E+09	1.14E−03
Ne IX	$1s^2-1s2p$	^{1}S$-^1$P^o	13.4471	0	7436560	1	3	8.90E+12	7.24E−01
Ne IX	$1s^2-1s3p$	^{1}S$-^1$P^o	11.5466	0	8660530	1	3	2.48E+12	1.49E−01
Ne IX	$1s^2-1s4p$	^{1}S$-^1$P^o	11.0003	0	9090630	1	3	1.03E+12	5.61E−02
Ne IX	$1s^2-1s5p$	^{1}S$-^1$P^o	10.7643	0	9290000	1	3	5.20E+11	2.71E−02
Ne IX	$1s^2-1s6p$	^{1}S$-^1$P^o	10.6426	0	9396200	1	3	3.00E+11	1.53E−02
Ne IX	$1s^2-1s7p$	^{1}S$-^1$P^o	10.5650	0	9465200	1	3	1.89E+11	9.47E−03
Ne IX	$1s^2-1s8p$	^{1}S$-^1$P^o	10.513	0	9512000	1	3	1.26E+11	6.28E−03
Ne X	$1s-2p$	^{2}S$-^2$P^o	*12.1339*	0	*8241382*	2	6	6.28E+12	4.16E−01
			12.1375	0	[8238933]	2	2	6.29E+12	1.39E−01
			12.1321	0	[8242606]	2	4	6.28E+12	2.77E−01
Ne X	$1s-3p$	^{2}S$-^2$P^o	*10.2389*	0	*9766700*	2	6	1.68E+12	7.90E−02
			10.2396	0	[9765975]	2	2	1.67E+12	2.63E−02
			10.2385	0	[9767063]	2	4	1.68E+12	5.27E−02
Ne X	$1s-4p$	^{2}S$-^2$P^o	*9.7082*	0	*10300596*	2	6	6.84E+11	2.90E−02
			9.7085	0	[10300290]	2	2	6.84E+11	9.67E−03
			9.7080	0	[10300749]	2	4	6.83E+11	1.93E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ne X	$1s-5p$	^{2}S$-^2$P^o	*9.4807*	0	*10547694*	2	6	3.44E+11	1.39E−02
			9.4809	0	[10547537]	2	2	3.45E+11	4.65E−03
			9.4807	0	[10547772]	2	4	3.45E+11	9.30E−03
Ne X	$1s-6p$	^{2}S$-^2$P^o	*9.3616*	0	*10681909*	2	6	1.98E+11	7.80E−03
			9.3617	0	[10681818]	2	2	1.98E+11	2.60E−03
			9.3616	0	[10681954]	2	4	1.98E+11	5.20E−03
Ne X	$1s-7p$	^{2}S$-^2$P^o	*9.2912*	0	*10762830*	2	6	1.24E+11	4.82E−03
			9.2913	0	[10762773]	2	2	1.24E+11	1.60E−03
			9.2912	0	[10762859]	2	4	1.24E+11	3.21E−03
Ne X	$1s-8p$	^{2}S$-^2$P^o	*9.2461*	0	*10815348*	2	6	8.30E+10	3.19E−03
			9.2462	0	[10815309]	2	2	8.27E+10	1.06E−03
			9.2461	0	[10815367]	2	4	8.27E+10	2.12E−03
Ne X	$1s-9p$	^{2}S$-^2$P^o	*9.2154*	0	*10851352*	2	6	5.81E+10	2.22E−03
			9.2155	0	[10851325]	2	2	5.80E+10	7.38E−04
			9.2154	0	[10851365]	2	4	5.81E+10	1.48E−03
Ne X	$1s-10p$	^{2}S$-^2$P^o	*9.1936*	0	*10877104*	2	6	4.21E+10	1.60E−03
			9.1936	0	[10877114]	2	4	4.22E+10	1.07E−03
			9.1936	0	[10877085]	2	2	4.22E+10	5.35E−04
Na I	$2p^6 3s-2p^6 3p$	^{2}S$-^2$P^o	*5893.5729*	0	*16967.636*	2	6	6.40E+07	1.00E+00
			5897.5575	0	16956.172	2	2	6.42E+07	3.35E−01
			5891.5826	0	16973.368	2	4	6.44E+07	6.70E−01
Na I	$2p^6 3s-2p^6 4p$	^{2}S$-^2$P^o	*3303.523*	0	*30270.72*	2	6	2.75E+06	1.35E−02
			3303.929	0	30266.99	2	2	2.75E+06	4.50E−03
			3303.319	0	30272.58	2	4	2.75E+06	9.01E−03
Na I	$2p^6 3s-2p^6 5p$	^{2}S$-^2$P^o	*2853.716*	0	*35042.03*	2	6	5.43E+05	1.99E−03
			2853.850	0	35040.38	2	2	5.44E+05	6.64E−04
			2853.649	0	35042.85	2	4	5.45E+05	1.33E−03
Na I	$2p^6 3s-2p^6 6p$	^{2}S$-^2$P^o	*2681.168*	0	*37297.18*	2	6	1.86E+05	6.03E−04
			2681.230	0	37296.32	2	2	1.86E+05	2.01E−04
			2681.137	0	37297.61	2	4	1.86E+05	4.01E−04
Na I	$2p^6 3s-2p^6 7p$	^{2}S$-^2$P^o	*2594.661*	0	*38540.68*	2	6	8.42E+04	2.55E−04
			2594.695	0	38540.18	2	2	8.44E+04	8.52E−05
			2594.644	0	38540.93	2	4	8.42E+04	1.70E−04
Na I	$2p^6 3s-2p^6 8p$	^{2}S$-^2$P^o	*2544.615*	0	*39298.68*	2	6	4.57E+04	1.33E−04
			2544.636	0	39298.35	2	2	4.55E+04	4.42E−05
			2544.604	0	39298.84	2	4	4.56E+04	8.85E−05
Na I	$2p^6 3s-2p^6 9p$	^{2}S$-^2$P^o	*2512.8974*	0	*39794.700*	2	6	2.75E+04	7.81E−05
			2512.9113	0	[39794.480]	2	2	2.75E+04	2.60E−05
			2512.8905	0	[39794.810]	2	4	2.75E+04	5.20E−05
Na I	$2p^6 3s-2p^6 10p$	^{2}S$-^2$P^o	*2491.4691*	0	*40136.961*	2	6	1.79E+04	5.00E−05
			2491.4788	0	[40136.805]	2	2	1.78E+04	1.66E−05
			2491.4643	0	[40137.039]	2	4	1.79E+04	3.33E−05
Na II	$2s^2 2p^6-2p^5 3s$	^{1}S$-^1$P^o	372.0751	0	268762.96	1	3	3.50E+09	2.18E−01
Na III	$2s^2 2p^5-2s2p^6$	^{2}P$^o-^2$S	*378.7885*	*455.4*	264455.0	6	2	1.24E+10	8.87E−02
			380.0999	1366.3	264455.0	2	2	4.08E+09	8.84E−02
			378.1362	0	264455.0	4	2	8.29E+09	8.89E−02
Na III	$2s^2 2p^5-2p^4(^3\mathrm{P})3s$	^{2}P$^o-^2$P	*267.7189*	*455.4*	*373981.52*	6	6	1.14E+10	1.22E−01
			268.6251	1366.3	373632.32	2	4	1.86E+09	4.03E−02
			267.8713	1366.3	374679.91	2	2	7.50E+09	8.07E−02
			267.6428	0	373632.32	4	4	9.40E+09	1.01E−01
			266.8945	0	374679.91	4	2	3.80E+09	2.03E−02
Na III	$2s^2 2p^5-2p^4(^1\mathrm{D})3s$	^{2}P$^o-^2$D	*250.8011*	*455.4*	*399177.75*	6	10	4.45E+09	7.00E−02
			251.3725	1366.3	399182.31	2	4	3.69E+09	6.99E−02
			250.5169	0	399174.71	4	6	4.47E+09	6.31E−02
			250.5121	0	399182.31	4	4	7.45E+08	7.01E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*230.1112*	*455.4*	435028.00	6	2	4.72E+09	1.25E−02
			230.5945	1366.3	435028.00	2	2	1.56E+09	1.24E−02
			229.8703	0	435028.00	4	2	3.16E+09	1.25E−02
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*215.4310*	*455.4*	*464641.23*	6	10	1.98E+10	2.30E−01
			215.6792	1366.3	465017.83	2	4	1.64E+10	2.29E−01
			215.3362	0	464390.17	4	6	1.99E+10	2.07E−01
			215.0455	0	465017.83	4	4	3.32E+09	2.30E−02
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*214.5583*	*455.4*	*466529.32*	6	6	9.61E+09	6.63E−02
			215.2178	1366.3	466011.91	2	2	6.35E+09	4.41E−02
			214.8589	1366.3	466788.03	2	4	1.60E+09	2.21E−02
			214.5868	0	466011.91	4	2	3.22E+09	1.11E−02
			214.2300	0	466788.03	4	4	8.05E+09	5.54E−02
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*207.3503*	*455.4*	*482730.98*	6	6	3.23E+09	2.08E−02
			207.8847	1366.3	482402.20	2	4	5.35E+08	6.93E−03
			207.4593	1366.3	483388.55	2	2	2.15E+09	1.39E−02
			207.2959	0	482402.20	4	4	2.70E+09	1.74E−02
			206.8729	0	483388.55	4	2	1.08E+09	3.48E−03
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*202.9342*	*455.4*	*493226.03*	6	6	1.43E+10	8.82E−02
			203.3240	1366.3	493192.06	2	4	2.36E+09	2.93E−02
			203.2819	1366.3	493293.98	2	2	9.47E+09	5.87E−02
			202.7608	0	493192.06	4	4	1.19E+10	7.36E−02
			202.7189	0	493293.98	4	2	4.77E+09	1.47E−02
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*202.6779*	*455.4*	493849.24	6	2	2.53E+10	5.20E−02
			203.0527	1366.3	493849.24	2	2	8.40E+09	5.19E−02
			202.4909	0	493849.24	4	2	1.70E+10	5.21E−02
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*202.3552*	*455.4*	*494635.98*	6	10	6.62E+09	6.77E−02
			202.7084	1366.3	494685.86	2	4	5.49E+09	6.76E−02
			202.1825	0	494602.73	4	6	6.62E+09	6.09E−02
			202.1485	0	494685.86	4	4	1.11E+09	6.78E−03
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*195.7029*	*455.4*	*511434.1*	6	10	1.07E+09	1.02E−02
			196.0525	1366.3	511433.8	2	4	8.85E+08	1.02E−02
			195.5287	0	511433.8	4	4	1.78E+08	1.02E−03
			195.5285	0	511434.3	4	6	1.07E+09	9.16E−03
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*194.261*	*455.4*	*515226*	6	10	1.12E+10	1.06E−01
			194.685	1366.3	515017	2	4	9.33E+09	1.06E−01
			194.168	0	515017	4	4	1.88E+09	1.06E−02
			194.037	0	515365	4	6	1.13E+10	9.59E−02
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*194.082*	*455.4*	*515703*	6	6	6.98E+09	3.94E−02
			194.638	1366.3	515140	2	2	4.61E+09	2.62E−02
			194.319	1366.3	515984	2	4	1.16E+09	1.31E−02
			194.122	0	515140	4	2	2.32E+09	6.56E−03
			193.804	0	515984	4	4	5.84E+09	3.29E−02
Na III	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*191.375*	*455.4*	*522989*	6	6	1.52E+09	8.34E−03
			191.808	1366.3	522720	2	4	2.52E+08	2.78E−03
			191.512	1366.3	523527	2	2	1.01E+09	5.57E−03
			191.307	0	522720	4	4	1.27E+09	6.96E−03
			191.012	0	523527	4	2	5.12E+08	1.40E−03
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*189.0285*	*455.4*	*529476.06*	6	10	3.47E+09	3.10E−02
			189.3468	1366.3	529497.70	2	4	2.87E+09	3.09E−02
			188.8711	0	529461.64	4	6	3.48E+09	2.79E−02
			188.8582	0	529497.70	4	4	5.80E+08	3.10E−03
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*184.100*	*455.4*	543640	6	2	1.45E+10	2.45E−02
			184.409	1366.3	543640	2	2	4.81E+09	2.45E−02
			183.945	0	543640	4	2	9.66E+09	2.45E−02
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*183.895*	*455.4*	*544243*	6	6	7.36E+09	3.73E−02
			184.210	1366.3	544226	2	4	1.22E+09	1.24E−02
			184.192	1366.3	544278	2	2	4.90E+09	2.49E−02
			183.747	0	544226	4	4	6.16E+09	3.12E−02
			183.730	0	544278	4	2	2.46E+09	6.23E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*183.719*	*455.4*	*544765*	6	10	2.81E+09	2.37E−02
			184.019	1366.3	544788	2	4	2.33E+09	2.37E−02
			183.571	0	544749	4	6	2.81E+09	2.13E−02
			183.558	0	544788	4	4	4.69E+08	2.37E−03
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{S})4s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*182.6633*	*455.4*	547910.7	6	2	1.35E+08	2.25E−04
			182.9678	1366.3	547910.7	2	2	4.48E+07	2.25E−04
			182.5115	0	547910.7	4	2	9.01E+07	2.25E−04
Na III	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*181.174*	*455.4*	*552411*	6	10	5.35E+08	4.39E−03
			181.476	1366.3	552404	2	4	4.44E+08	4.38E−03
			181.027	0	552404	4	4	8.94E+07	4.39E−04
			181.023?	0	552416?	4	6	5.37E+08	3.96E−03
Na IV	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*410.4311*	*543.9*	*244190.1*	9	9	6.61E+09	1.67E−01
			412.2426	1106.3	243681.9	3	5	1.63E+09	6.94E−02
			411.3337	1576.0	244687.6	1	3	2.19E+09	1.67E−01
			410.5405	1106.3	244687.6	3	3	1.65E+09	4.17E−02
			410.3711	0	243681.9	5	5	4.99E+09	1.26E−01
			409.6136	1106.3	245238.8	3	1	6.65E+09	5.58E−02
			408.6844	0	244687.6	5	3	2.79E+09	4.19E−02
Na IV	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*205.7163*	*543.9*	486650.2	9	3	2.49E+10	5.26E−02
			206.1540	1576.0	486650.2	1	3	2.75E+09	5.25E−02
			205.9546	1106.3	486650.2	3	3	8.27E+09	5.26E−02
			205.4864	0	486650.2	5	3	1.39E+10	5.27E−02
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*190.635*	*543.9*	*525106*	9	15	8.10E+09	7.36E−02
			190.999	1576.0	525139	1	3	4.48E+09	7.35E−02
			190.836	1106.3	525117	3	5	6.07E+09	5.52E−02
			190.828	1106.3	525139	3	3	3.37E+09	1.84E−02
			190.445	0	525085	5	7	8.14E+09	6.20E−02
			190.434	0	525117	5	5	2.02E+09	1.10E−02
			190.426	0	525139	5	3	2.26E+08	7.37E−04
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*181.941*	*543.9*	*550173*	9	9	8.38E+09	4.16E−02
			182.288	1576.0	550157	1	3	2.78E+09	4.16E−02
			182.133	1106.3	550157	3	3	2.09E+09	1.04E−02
			182.132	1106.3	550158	3	1	8.38E+09	1.39E−02
			182.123	1106.3	550186	3	5	2.10E+09	1.74E−02
			181.766	0	550157	5	3	3.50E+09	1.04E−02
			181.757	0	550186	5	5	6.30E+09	3.12E−02
Na IV	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*168.246*	*543.9*	*594913*	9	15	3.25E+10	2.30E−01
			168.5454	1576.0	594888.1	1	3	1.79E+10	2.29E−01
			168.4120	1106.3	594888.1	3	3	1.35E+10	5.73E−02
			168.4089	1106.3	594899.2	3	5	2.41E+10	1.71E−01
			168.0988	0	594888.1	5	3	9.05E+08	2.30E−03
			168.0957	0	594899.2	5	5	8.14E+09	3.45E−02
			168.086	0	594934	5	7	3.25E+10	1.93E−01
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*156.652*	*543.9*	*638901*	9	15	2.74E+10	1.68E−01
			156.880	1576.0	639007	1	3	1.51E+10	1.67E−01
			156.780	1106.3	638943	3	5	2.05E+10	1.26E−01
			156.764	1106.3	639007	3	3	1.13E+10	4.18E−02
			156.537	0	638825	5	7	2.74E+10	1.41E−01
			156.508	0	638943	5	5	6.86E+09	2.52E−02
			156.493	0	639007	5	3	7.63E+08	1.68E−03
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*155.609*	*543.9*	*643179*	9	9	6.17E+10	2.24E−01
			155.828	1576.0	643311	1	3	2.04E+10	2.23E−01
			155.776	1106.3	643052	3	5	1.54E+10	9.33E−02
			155.714	1106.3	643311	3	3	1.54E+10	5.60E−02
			155.687?	1106.3	643420?	3	1	6.17E+10	7.47E−02
			155.508	0	643052	5	5	4.63E+10	1.68E−01
			155.446	0	643311	5	3	2.58E+10	5.61E−02
Na IV	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)4s^*$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*155.371*	*543.9*	644166	9	3	6.62E+10	7.99E−02
			155.620	1576.0	644166	1	3	7.32E+09	7.97E−02
			155.507	1106.3	644166	3	3	2.20E+10	7.98E−02
			155.239	0	644166	5	3	3.69E+10	7.99E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d^*$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*155.213*	*543.9*	644819	9	3	5.31E+09	6.39E−03
			155.462	1576.0	644819	1	3	5.87E+08	6.38E−03
			155.349	1106.3	644819	3	3	1.77E+09	6.39E−03
			155.082	0	644819	5	3	2.96E+09	6.40E−03
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*150.832*	*543.9*	*663531*	9	9	1.39E+10	4.75E−02
			151.073	1576.0	663509	1	3	4.62E+09	4.74E−02
			151.050?	1106.3	663137?	3	1	1.39E+10	1.58E−02
			150.966	1106.3	663509	3	3	3.48E+09	1.19E−02
			150.940	1106.3	663623	3	5	3.46E+09	1.97E−02
			150.714	0	663509	5	3	5.82E+09	1.19E−02
			150.688	0	663623	5	5	1.05E+10	3.57E−02
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*150.417*	*543.9*	*665364*	9	15	2.19E+10	1.24E−01
			150.642	1576.0	665400	1	3	1.21E+10	1.24E−01
			150.543	1106.3	665370	3	5	1.64E+10	9.31E−02
			150.536	1106.3	665400	3	3	9.12E+09	3.10E−02
			150.298	0	665344	5	7	2.21E+10	1.05E−01
			150.292	0	665370	5	5	5.52E+09	1.87E−02
			150.286	0	665400	5	3	6.10E+08	1.24E−03
Na IV	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*146.180*	*543.9*	*684631*	9	15	2.66E+10	1.42E−01
			146.399	1576.0	684640	1	3	1.47E+10	1.42E−01
			146.302	1106.3	684626	3	5	2.00E+10	1.07E−01
			146.299	1106.3	684640	3	3	1.11E+10	3.56E−02
			146.065	0	684626	5	5	6.66E+09	2.13E−02
			146.064	0	684630	5	7	2.66E+10	1.19E−01
			146.062	0	684640	5	3	7.40E+08	1.42E−03
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*145.089*	*543.9*	*689776*	9	15	1.57E+09	8.27E−03
			145.300	1576.0	689808	1	3	8.70E+08	8.26E−03
			145.205	1106.3	689789	3	5	1.18E+09	6.20E−03
			145.201	1106.3	689808	3	3	6.55E+08	2.07E−03
			144.979	0	689753	5	7	1.58E+09	6.95E−03
			144.972	0	689789	5	5	3.94E+08	1.24E−03
			144.968	0	689808	5	3	4.38E+07	8.28E−05
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*140.069*	*543.9*	*714476*	9	9	3.13E+09	9.21E−03
			140.274	1576.0	714468	1	3	1.04E+09	9.20E−03
			140.181	1106.3	714468	3	3	7.84E+08	2.31E−03
			140.181?	1106.3	714468?	3	1	3.12E+09	3.06E−03
			140.178	1106.3	714483	3	5	7.80E+08	3.83E−03
			139.964	0	714468	5	3	1.31E+09	2.31E−03
			139.961	0	714483	5	5	2.36E+09	6.92E−03
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*136.953*	*543.9*	*730719*	9	15	1.55E+10	7.28E−02
			137.143	1576.0	730742	1	3	8.59E+09	7.27E−02
			137.057	1106.3	730728	3	5	1.16E+10	5.46E−02
			137.055	1106.3	730742	3	3	6.46E+09	1.82E−02
			136.855	0	730702	5	7	1.56E+10	6.12E−02
			136.850	0	730728	5	5	3.88E+09	1.09E−02
			136.847	0	730742	5	3	4.33E+08	7.29E−04
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*136.651*	*543.9*	*732333*	9	9	2.76E+10	7.73E−02
			136.842	1576.0	732346	1	3	9.17E+09	7.72E−02
			136.758	1106.3	732325	3	5	6.89E+09	3.22E−02
			136.754	1106.3	732346	3	3	6.88E+09	1.93E−02
			136.551	0	732325	5	5	2.08E+10	5.81E−02
			136.547	0	732346	5	3	1.15E+10	1.93E−02
				1106.3		3	1	2.76E+10	2.58E−02
Na IV	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*136.531*	*543.9*	732979	9	3	3.12E+10	2.91E−02
			136.724	1576.0	732979	1	3	3.46E+09	2.91E−02
			136.636	1106.3	732979	3	3	1.04E+10	2.91E−02
			136.430	0	732979	5	3	1.74E+10	2.91E−02
Na V	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*461.961*	0	*216469*	4	12	2.27E+09	2.18E−01
			463.263	0	215860	4	6	2.26E+09	1.09E−01
			461.050	0	216896	4	4	2.28E+09	7.27E−02
			459.897	0	217440	4	2	2.30E+09	3.64E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na V	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*148.773*	0	*672164*	4	12	1.30E+10	1.29E−01
			149.001	0	671136	4	2	1.29E+10	2.14E−02
			148.856	0	671790	4	4	1.29E+10	4.29E−02
			148.642	0	672757	4	6	1.30E+10	6.45E−02
Na V	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*125.245*	0	*798437*	4	12	1.57E+11	1.11E+00
			125.286	0	798174	4	6	1.58E+11	5.57E−01
			125.216	0	798620	4	4	1.58E+11	3.71E−01
			125.178	0	798862	4	2	1.58E+11	1.86E−01
Na V	$2s^2 2p^3 - 2p^3(^5\mathrm{S}^o)3p$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*117.989*	0	*847539*	4	12	2.33E+10	1.46E−01
			117.989	0	847539	4	6	2.34E+10	7.34E−02
			117.989	0	847539	4	4	2.35E+10	4.90E−02
			117.989	0	847539	4	2	2.35E+10	2.45E−02
Na V	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*111.929*	0	*893425*	4	12	4.81E+09	2.71E−02
			112.077	0	892240	4	2	4.80E+09	4.52E−03
			111.879	0	893820	4	6	4.83E+09	1.36E−02
				0		4	4	4.83E+09	9.08E−03
Na V	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*106.292*	0	*940800*	4	12	6.42E+10	3.26E−01
			106.302	0	940720	4	6	6.45E+10	1.64E−01
			106.278	0	940930	4	4	6.44E+10	1.09E−01
				0		4	2	6.45E+10	5.46E−02
Na VI	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*492.798*	*1265*	*204188*	9	15	1.41E+09	8.55E−02
			494.381	1859	204132	5	7	1.39E+09	7.15E−02
			494.159	1859	204223	5	5	3.47E+08	1.27E−02
			494.066	1859	204261	5	3	3.88E+07	8.52E−04
			491.340	698	204223	3	5	1.07E+09	6.43E−02
			491.248	698	204261	3	3	5.91E+08	2.14E−02
			489.570	0	204261	1	3	7.98E+08	8.60E−02
Na VI	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*416.535*	*1265*	*241341*	9	9	3.83E+09	9.95E−02
			417.568	1859	241341	5	5	2.85E+09	7.45E−02
			417.568	1859	241341	5	3	1.59E+09	2.49E−02
			415.553	698	241341	3	3	9.66E+08	2.50E−02
			415.553	698	241341	3	5	9.62E+08	4.15E−02
			415.553	698	241341	3	1	3.85E+09	3.32E−02
			414.351	0	241341	1	3	1.29E+09	1.00E−01
Na VI	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*313.162*	*1265*	320589	9	3	2.51E+10	1.23E−01
			313.745	1859	320589	5	3	1.39E+10	1.23E−01
			312.606	698	320589	3	3	8.40E+09	1.23E−01
			311.926	0	320589	1	3	2.83E+09	1.24E−01
Na VI	$2s^2 2p^2 - 2s^2 2p3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*123.92*	*1265*	*808245*	9	9	3.18E+10	7.31E−02
			124.15	1859	807320	5	3	1.32E+10	1.83E−02
			123.97	698	807320	3	3	7.94E+09	1.83E−02
			123.92	1859	808800	5	5	2.38E+10	5.48E−02
			123.87	0	807320	1	3	1.06E+10	7.32E−02
			123.75	698	808800	3	5	8.00E+09	3.06E−02
				698		3	1	3.18E+10	2.44E−02
Na VI	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*107.65*	*1265*	*930190*	9	15	2.54E+11	7.36E−01
			107.7685	1859	929774	5	3	7.04E+09	7.35E−03
			107.74	1859	930000	5	5	6.32E+10	1.10E−01
			107.683	1859	930510	5	7	2.54E+11	6.18E−01
			107.6338	698	929774	3	3	1.06E+11	1.84E−01
			107.61	698	930000	3	5	1.91E+11	5.52E−01
			107.5530	0	929774	1	3	1.41E+11	7.35E−01
Na VI	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*107.190*	*1265*	*934190*	9	9	1.43E+11	2.47E−01
			107.289	1859	933920	5	5	1.07E+11	1.85E−01
			107.227	1859	934460	5	3	5.97E+10	6.17E−02
			107.156	698	933920	3	5	3.59E+10	1.03E−01
			107.094	698	934460	3	3	3.59E+10	6.18E−02
			107.062?	698	934740?	3	1	1.44E+11	8.23E−02
			107.014	0	934460	1	3	4.80E+10	2.47E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na VI	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{S}^o$	*103.138*	*1265*	970840	9	3	5.77E+10	3.07E−02
			103.201	1859	970840	5	3	3.20E+10	3.07E−02
			103.078	698	970840	3	3	1.93E+10	3.08E−02
			103.004	0	970840	1	3	6.45E+09	3.08E−02
Na VI	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*100.485*	*1265*	*996440*	9	15	4.72E+10	1.19E−01
			100.588	1859	996010	5	5	1.18E+10	1.79E−02
			100.515	1859	996740	5	7	4.72E+10	1.00E−01
			100.471	698	996010	3	5	3.55E+10	8.96E−02
				0		1	3	2.62E+10	1.19E−01
				698		3	3	1.96E+10	2.97E−02
				1859		5	3	1.31E+09	1.19E−03
Na VI	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{P}^o$	*99.581*	*1265*	*1005470*	9	9	4.30E+10	6.40E−02
			99.680?	1859	1005070?	5	3	1.78E+10	1.59E−02
			99.616	1859	1005710	5	5	3.22E+10	4.79E−02
			99.565?	698	1005070?	3	3	1.08E+10	1.60E−02
			99.501	698	1005710	3	5	1.08E+10	2.67E−02
			99.496?	0	1005070?	1	3	1.44E+10	6.40E−02
				698		3	1	4.30E+10	2.13E−02
Na VI	$2s^22p^2-2s2p^2(^2\mathrm{D})3p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*96.251*	*1265*	*1040220*	9	15	2.66E+09	6.15E−03
			96.306	1859	1040220	5	7	2.65E+09	5.16E−03
			96.306	1859	1040220	5	5	6.62E+08	9.21E−04
			96.306	1859	1040220	5	3	7.36E+07	6.14E−05
			96.198	698	1040220	3	5	1.99E+09	4.61E−03
			96.198	698	1040220	3	3	1.10E+09	1.53E−03
			96.134	0	1040220	1	3	1.48E+09	6.15E−03
Na VI	$2s^22p^2-2s^22p4s$	$^3\mathrm{P}-^3\mathrm{P}^o$	*91.786*	*1265*	*1090760*	9	9	1.11E+10	1.40E−02
			91.836	1859	1090760	5	5	8.38E+09	1.06E−02
			91.738	698	1090760	3	5	2.79E+09	5.86E−03
				698		3	3	2.79E+09	3.53E−03
				1859		5	3	4.66E+09	3.53E−03
				698		3	1	1.12E+10	4.70E−03
				0		1	3	3.72E+09	1.41E−02
Na VI	$2s^22p^2-2s^22p4d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*88.266*	*1265*	*1134200*	9	15	1.02E+11	1.98E−01
			88.368	1859	1133490	5	3	2.82E+09	1.98E−03
			88.338	1859	1133870	5	5	2.54E+10	2.97E−02
			88.277	698	1133490	3	3	4.23E+10	4.94E−02
			88.270	1859	1134750	5	7	1.02E+11	1.66E−01
			88.248	698	1133870	3	5	7.61E+10	1.48E−01
			88.223	0	1133490	1	3	5.66E+10	1.98E−01
Na VI	$2s^22p^2-2s^22p4d$	$^3\mathrm{P}-^3\mathrm{P}^o$	*88.097*	*1265*	*1136380*	9	9	3.89E+10	4.53E−02
			88.143	1859	1136380	5	5	2.91E+10	3.39E−02
			88.053	698	1136380	3	5	9.70E+09	1.88E−02
				698		3	3	9.71E+09	1.13E−02
				1859		5	3	1.62E+10	1.13E−02
				698		3	1	3.89E+10	1.51E−02
				0		1	3	1.29E+10	4.52E−02
Na VI	$2s^22p^2-2s^22p5d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*81.5033*	*1265*	*1228210*	9	15	3.91E+10	6.49E−02
			81.5427?	1859	1228210?	5	7	3.91E+10	5.45E−02
				698		3	5	2.93E+10	4.87E−02
				0		1	3	2.18E+10	6.50E−02
				1859		5	5	9.79E+09	9.75E−03
				698		3	3	1.63E+10	1.62E−02
				1859		5	3	1.09E+09	6.50E−04
Na VII	$2s^22p-2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{D}$	*490.195*	*1426*	*205426*	6	10	1.37E+09	8.23E−02
			491.949	2139	205412	4	6	1.36E+09	7.38E−02
			491.862	2139	205448	4	4	2.26E+08	8.21E−03
			486.741	0	205448	2	4	1.17E+09	8.29E−02
Na VII	$2s^22p-2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{S}$	*380.27*	*1426*	264400	6	2	6.23E+09	4.50E−02
			381.30	2139	264400	4	2	4.12E+09	4.49E−02
			378.21	0	264400	2	2	2.11E+09	4.53E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na VII	$2s^2 2p - 2s 2p^2$	^{2}P^o – ^{2}P	*352.954*	*1426*	*284749*	6	6	1.20E+10	2.25E−01
			354.950	2139	283869	4	2	3.94E+09	3.72E−02
			353.294	2139	285189	4	4	1.00E+10	1.88E−01
			352.275	0	283869	2	2	8.06E+09	1.50E−01
			350.645	0	285189	2	4	2.05E+09	7.54E−02
Na VII	$2s^2 2p - 2s^2 3s$	^{2}P^o – ^{2}S	*105.272*	*1426*	951350	6	2	4.88E+10	2.70E−02
			105.351	2139	951350	4	2	3.25E+10	2.70E−02
			105.114	0	951350	2	2	1.64E+10	2.71E−02
Na VII	$2s^2 2p - 2s^2 3d$	^{2}P^o – ^{2}D	*94.409*	*1426*	*1060650*	6	10	2.65E+11	5.91E−01
			94.479	2139	1060580	4	4	4.42E+10	5.91E−02
			94.468	2139	1060700	4	6	2.65E+11	5.32E−01
			94.288	0	1060580	2	4	2.22E+11	5.92E−01
Na VII	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 3p$	^{2}P^o – ^{2}P	*88.826*	*1426*	*1127220*	6	6	9.55E+10	1.13E−01
			88.915	2139	1126810	4	2	3.17E+10	1.88E−02
			88.866	2139	1127430	4	4	7.95E+10	9.41E−02
			88.746	0	1126810	2	2	6.39E+10	7.54E−02
			88.697	0	1127430	2	4	1.60E+10	3.78E−02
Na VII	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 3p$	^{2}P^o – ^{2}D	*86.6405*	*1426*	*1155620*	6	10	1.00E+11	1.88E−01
			86.7573	2139	1154780	4	4	1.67E+10	1.88E−02
			86.6520	2139	1156180	4	6	1.01E+11	1.70E−01
			86.5966	0	1154780	2	4	8.41E+10	1.89E−01
Na VII	$2s^2 2p - 2s 2p(^3\mathrm{P}^o) 3p$	^{2}P^o – ^{2}S	*85.4034*	*1426*	1172340	6	2	9.60E+10	3.50E−02
			85.4554	2139	1172340	4	2	6.39E+10	3.50E−02
			85.2995	0	1172340	2	2	3.22E+10	3.51E−02
Na VII	$2s^2 2p - 2s 2p(^1\mathrm{P}^o) 3p$	^{2}P^o – ^{2}D	*79.9713*	*1426*	*1251870*	6	10	1.17E+10	1.87E−02
			80.0300	2139	1251670	4	4	1.95E+09	1.87E−03
			80.0083	2139	1252010	4	6	1.17E+10	1.68E−02
			79.8933	0	1251670	2	4	9.77E+09	1.87E−02
Na VII	$2s^2 2p - 2s 2p(^1\mathrm{P}^o) 3p$	^{2}P^o – ^{2}P	*79.8588*	*1426*	*1253640*	6	6	3.33E+10	3.18E−02
			79.9226	2139	1253350	4	2	1.11E+10	5.31E−03
			79.8951	2139	1253780	4	4	2.77E+10	2.65E−02
			79.7862	0	1253350	2	2	2.22E+10	2.12E−02
			79.7588	0	1253780	2	4	5.56E+09	1.06E−02
Na VII	$2s^2 2p - 2s 2p(^1\mathrm{P}^o) 3p$	^{2}P^o – ^{2}S	*79.5258*	*1426*	1258880	6	2	4.02E+10	1.27E−02
			79.5709	2139	1258880	4	2	2.68E+10	1.27E−02
			79.4357	0	1258880	2	2	1.34E+10	1.27E−02
Na VII	$2s^2 2p - 2s^2 4s$	^{2}P^o – ^{2}S	*77.3106*	*1426*	1294910	6	2	3.92E+09	1.17E−03
			77.3532	2139	1294910	4	2	2.61E+09	1.17E−03
			77.2254	0	1294910	2	2	1.31E+09	1.17E−03
Na VII	$2s^2 2p - 2p^2(^1\mathrm{D}) 3s$	^{2}P^o – ^{2}D	*75.1760*	*1426*	*1331640*	6	10	1.79E+09	2.53E−03
			75.2445	2139	1331140	4	4	2.98E+08	2.53E−04
			75.1975	2139	1331970	4	6	1.79E+09	2.28E−03
			75.1236	0	1331140	2	4	1.50E+09	2.54E−03
Na VII	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*74.9403*	*1426*	*1335820*	6	10	8.69E+10	1.22E−01
			74.9810	2139	1335810	4	4	1.45E+10	1.22E−02
			74.9799	2139	1335830	4	6	8.70E+10	1.10E−01
			74.8609	0	1335810	2	4	7.26E+10	1.22E−01
Na VII	$2s^2 2p - 2p^2(^3\mathrm{P}) 3d$	^{2}P^o – ^{2}D	*71.9930*	*1426*	*1390450*	6	10	1.14E+10	1.47E−02
			72.0300?	2139	1390450?	4	6	1.13E+10	1.32E−02
			72.0300?	2139	1390450?	4	4	1.89E+09	1.47E−03
			71.9192?	0	1390450?	2	4	9.48E+09	1.47E−02
Na VII	$2s^2 2p - 2p^2(^1\mathrm{D}) 3d$	^{2}P^o – ^{2}D	*70.7112*	*1426*	*1415630*	6	10	6.12E+09	7.65E−03
			70.7468	2139	1415630	4	6	6.11E+09	6.88E−03
			70.7468	2139	1415630	4	4	1.02E+09	7.65E−04
			70.6399	0	1415630	2	4	5.12E+09	7.66E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na VII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$:*	$^2\mathrm{P}^o - ^2\mathrm{P}$	*69.8799*	*1426*	*1432450*	6	6	4.34E+10	3.18E−02
			69.9300	2139	1432140	4	2	1.45E+10	5.30E−03
			69.9070	2139	1432610	4	4	3.63E+10	2.66E−02
			69.8256	0	1432140	2	2	2.90E+10	2.12E−02
			69.8027	0	1432610	2	4	7.32E+09	1.07E−02
Na VII	$2s^2 2p - 2p^2(^1\mathrm{D})3d$:*	$^2\mathrm{P}^o - ^2\mathrm{P}$	*69.3678*	*1426*	*1443020*	6	6	3.84E+09	2.77E−03
			69.4169	2139	1442710	4	2	1.28E+09	4.61E−04
			69.3948	2139	1443170	4	4	3.20E+09	2.31E−03
			69.3140	0	1442710	2	2	2.55E+09	1.84E−03
			69.2919	0	1443170	2	4	6.42E+08	9.24E−04
Na VII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*68.8979*	*1426*	*1452850*	6	10	3.87E+10	4.59E−02
			68.9674	2139	1452100	4	4	6.44E+09	4.59E−03
			68.9080	2139	1453350	4	6	3.88E+10	4.14E−02
			68.8658	0	1452100	2	4	3.23E+10	4.59E−02
Na VII	$2s^2 2p - 2s^2 5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*68.4868*	*1426*	*1461560*	6	10	3.98E+10	4.66E−02
			68.5222	2139	1461520	4	4	6.62E+09	4.66E−03
			68.5189	2139	1461590	4	6	3.98E+10	4.20E−02
			68.4219	0	1461520	2	4	3.32E+10	4.66E−02
Na VII	$2s^2 2p - 2s^2 6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*65.4436*	*1426*	*1529460*	6	10	2.35E+10	2.52E−02
			65.4741	2139	1529460	4	6	2.34E+10	2.26E−02
			65.4741	2139	1529460	4	4	3.92E+09	2.52E−03
			65.3826	0	1529460	2	4	1.97E+10	2.53E−02
Na VII	$2s^2 2p - 2s2p(^1\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*64.0835*	*1426*	*1561890*	6	10	1.26E+10	1.29E−02
			64.1128?	2139	1561890?	4	6	1.25E+10	1.16E−02
			64.1128?	2139	1561890?	4	4	2.09E+09	1.29E−03
			64.0250?	0	1561890?	2	4	1.05E+10	1.29E−02
Na VII	$2s^2 2p - 2s^2 7d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*63.7489*	*1426*	*1570080*	6	10	1.39E+10	1.41E−02
			63.7779	2139	1570080	4	6	1.39E+10	1.27E−02
			63.7779	2139	1570080	4	4	2.31E+09	1.41E−03
			63.6910	0	1570080	2	4	1.16E+10	1.41E−02
Na VII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)5p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*63.4146*	*1426*	*1578350*	6	6	2.87E+10	1.73E−02
			63.4433	2139	1578350	4	4	2.39E+10	1.44E−02
			63.4433	2139	1578350	4	2	9.61E+09	2.90E−03
			63.3573	0	1578350	2	2	1.93E+10	1.16E−02
			63.3573	0	1578350	2	4	4.82E+09	5.80E−03
Na VII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)5p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*63.1986*	*1426*	*1583740*	6	10	1.98E+10	1.98E−02
			63.2271	2139	1583740	4	6	1.97E+10	1.77E−02
			63.2271	2139	1583740	4	4	3.29E+09	1.97E−03
			63.1417	0	1583740	2	4	1.66E+10	1.98E−02
Na VII	$2s^2 2p - 2s^2 8d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*62.697*	*1426*	*1596400*	6	10	9.01E+09	8.85E−03
			62.725	2139	1596400	4	6	9.00E+09	7.96E−03
			62.725	2139	1596400	4	4	1.50E+09	8.84E−04
			62.641	0	1596400	2	4	7.52E+09	8.85E−03
Na VIII	$2s^2 - 2s2p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	411.171	0	243208	1	3	4.58E+09	3.48E−01
Na VIII	$2s^2 - 2s3p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	77.2660	0	1294230	1	3	1.93E+11	5.17E−01
Na VIII	$2s^2 - 2p3s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	70.1201	0	1426125	1	3	4.44E+09	9.82E−03
Na VIII	$2s^2 - 2p3d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	66.0620	0	1513730	1	3	1.78E+10	3.50E−02
Na VIII	$2s^2 - 2s4p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	59.7589	0	1673390	1	3	8.47E+10	1.36E−01
Na VIII	$2s^2 - 2s5p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	54.3800	0	1838910	1	3	4.44E+10	5.91E−02
Na VIII	$2s^2 - 2p4d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	54.2561	0	1843110	1	3	6.51E+09	8.62E−03
Na VIII	$2s^2 - 2s6p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	51.7891	0	1930910	1	3	2.62E+10	3.16E−02
Na IX	$1s^2 2s - 1s^2 2p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*685.810*	0	*145813*	2	6	6.48E+08	1.37E−01
			694.146	0	144062	2	2	6.28E+08	4.54E−02
			681.719	0	146688	2	4	6.63E+08	9.24E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na IX	$1s^2 2s - 1s^2 3p$	^{2}S$-^2$P$^\circ$	*70.6274*	0	*1415880*	2	6	1.40E+11	3.15E−01
			70.6529	0	1415370	2	2	1.40E+11	1.05E−01
			70.6150	0	1416130	2	4	1.40E+11	2.10E−01
Na IX	$1s^2 2s - 1s^2 4p$	^{2}S$-^2$P$^\circ$	*53.8602*	0	*1856660*	2	6	6.41E+10	8.37E−02
			53.8665	0	[1856440]	2	2	6.41E+10	2.79E−02
			53.8570	0	[1856770]	2	4	6.42E+10	5.58E−02
Na IX	$1s^2 2s - 1s^2 5p$	^{2}S$-^2$P$^\circ$	*48.5531*	0	*2059600*	2	6	3.34E+10	3.54E−02
			48.5531	0	2059600	2	4	3.32E+10	2.35E−02
			48.5531	0	2059600	2	2	3.34E+10	1.18E−02
Na IX	$1s^2 2s - 1s^2 6p$	^{2}S$-^2$P$^\circ$	*46.0900*	0	*2169670*	2	6	1.94E+10	1.85E−02
			46.0900	0	2169670	2	4	1.95E+10	1.24E−02
			46.0900	0	2169670	2	2	1.94E+10	6.19E−03
Na IX	$1s^2 2s - 1s^2 7p$	^{2}S$-^2$P$^\circ$	*44.7249*	0	*2235890*	2	6	1.22E+10	1.10E−02
			44.7249	0	2235890	2	4	1.22E+10	7.34E−03
			44.7249	0	2235890	2	2	1.23E+10	3.68E−03
Na X	$1s^2 - 1s2p$	^{1}S$-^1$P$^\circ$	11.0027	0	[9088700]	1	3	1.35E+13	7.34E−01
Na X	$1s^2 - 1s3p$	^{1}S$-^1$P$^\circ$	9.4330	0	[10601080]	1	3	3.75E+12	1.50E−01
Na X	$1s^2 - 1s4p$	^{1}S$-^1$P$^\circ$	8.9828	0	[11132393]	1	3	1.55E+12	5.63E−02
Na X	$1s^2 - 1s5p$	^{1}S$-^1$P$^\circ$	8.7884	0	[11378646]	1	3	7.83E+11	2.72E−02
Na X	$1s^2 - 1s6p$	^{1}S$-^1$P$^\circ$	8.6862	0	[11512505]	1	3	4.51E+11	1.53E−02
Na X	$1s^2 - 1s7p$	^{1}S$-^1$P$^\circ$	8.6257	0	[11593248]	1	3	2.84E+11	9.50E−03
Na X	$1s^2 - 1s8p$	^{1}S$-^1$P$^\circ$	8.5869	0	[11645667]	1	3	1.90E+11	6.30E−03
Na X	$1s^2 - 1s9p$	^{1}S$-^1$P$^\circ$	8.5605	0	[11681612]	1	3	1.33E+11	4.40E−03
Na X	$1s^2 - 1s10p$	^{1}S$-^1$P$^\circ$	8.5417	0	[11707327]	1	3	9.69E+10	3.18E−03
Na XI	$1s - 2p$	^{2}S$-^2$P$^\circ$	*10.0250*	0	*9975072*	2	6	9.20E+12	4.16E−01
			10.0286	0	[9971485]	2	2	9.22E+12	1.39E−01
			10.0232	0	[9976866]	2	4	9.20E+12	2.77E−01
Na XI	$1s - 3p$	^{2}S$-^2$P$^\circ$	*8.4595*	0	*11821028*	2	6	2.45E+12	7.90E−02
			8.4603	0	[11819965]	2	2	2.45E+12	2.63E−02
			8.4591	0	[11821559]	2	4	2.46E+12	5.27E−02
Na XI	$1s - 4p$	^{2}S$-^2$P$^\circ$	*8.0211*	0	*12467162*	2	6	1.00E+12	2.90E−02
			8.0214	0	[12466714]	2	2	1.00E+12	9.67E−03
			8.0209	0	[12467386]	2	4	1.00E+12	1.93E−02
Na XI	$1s - 5p$	^{2}S$-^2$P$^\circ$	*7.8332*	0	*12766202*	2	6	5.04E+11	1.39E−02
			7.8333	0	[12765972]	2	2	5.05E+11	4.65E−03
			7.8331	0	[12766317]	2	4	5.05E+11	9.30E−03
Na XI	$1s - 6p$	^{2}S$-^2$P$^\circ$	*7.7348*	0	*12928627*	2	6	2.90E+11	7.80E−03
			7.7349	0	[12928494]	2	2	2.90E+11	2.60E−03
			7.7347	0	[12928693]	2	4	2.90E+11	5.20E−03
Na XI	$1s - 7p$	^{2}S$-^2$P$^\circ$	*7.6766*	0	*13026555*	2	6	1.82E+11	4.82E−03
			7.6767	0	[13026471]	2	2	1.81E+11	1.60E−03
			7.6766	0	[13026597]	2	4	1.82E+11	3.21E−03
Na XI	$1s - 8p$	^{2}S$-^2$P$^\circ$	*7.6394*	0	*13090109*	2	6	1.22E+11	3.19E−03
			7.6394	0	[13090053]	2	2	1.21E+11	1.06E−03
			7.6393	0	[13090137]	2	4	1.21E+11	2.12E−03
Na XI	$1s - 9p$	^{2}S$-^2$P$^\circ$	*7.6140*	0	*13133679*	2	6	8.51E+10	2.22E−03
			7.6140	0	[13133698]	2	4	8.51E+10	1.48E−03
			7.6140	0	[13133639]	2	2	8.49E+10	7.38E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Na XI	$1s-10p$	$^2S-^2P^o$	*7.5960*	0	*13164842*	2	6	6.17E+10	1.60E−03
			7.5960	0	[13164857]	2	4	6.18E+10	1.07E−03
			7.5960	0	[13164814]	2	2	6.18E+10	5.35E−04
Mg I	$3s^2-3s3p$	$^1S-^1P^o$	2852.9642	0	35051.264	1	3	4.73E+08	1.73E+00
Mg I	$3s^2-3s4p$	$^1S-^1P^o$	2026.4768	0	49346.729	1	3	6.61E+07	1.22E−01
Mg I	$3s^2-3s5p$	$^1S-^1P^o$	1827.9351	0	54706.536	1	3	1.88E+07	2.83E−02
Mg I	$3s^2-3s6p$	$^1S-^1P^o$	1747.7937	0	57214.992	1	3	7.42E+06	1.02E−02
Mg I	$3s^2-3s7p$	$^1S-^1P^o$	1707.061	0	58580.23	1	3	3.70E+06	4.85E−03
Mg I	$3s^2-3s8p$	$^1S-^1P^o$	1683.412	0	59403.18	1	3	2.13E+06	2.71E−03
Mg I	$3s^2-3s9p$	$^1S-^1P^o$	1668.429	0	59936.63	1	3	1.33E+06	1.67E−03
Mg I	$3s^2-3s10p$	$^1S-^1P^o$	1658.312	0	60302.30	1	3	8.97E+05	1.11E−03
Mg I	$3s^2-3s11p$	$^1S-^1P^o$	1651.164	0	60563.35	1	3	6.34E+05	7.77E−04
Mg II	$2p^63s-2p^63p$	$^2S-^2P^o$	*2798.741*	0	*35730.36*	2	6	2.67E+08	9.42E−01
			2803.531	0	35669.31	2	2	2.66E+08	3.14E−01
			2796.352	0	35760.88	2	4	2.68E+08	6.29E−01
Mg II	$2p^63s-2p^64p$	$^2S-^2P^o$	*1240.082*	0	*80639.85*	2	6	8.07E+05	5.58E−04
			1240.395	0	80619.50	2	2	8.02E+05	1.85E−04
			1239.925	0	80650.02	2	4	8.07E+05	3.72E−04
Mg II	$2p^63s-2p^65p$	$^2S-^2P^o$	*1026.0165*	0	*97464.32*	2	6	2.96E+06	1.40E−03
			1026.1134	0	97455.12	2	2	2.96E+06	4.68E−04
			1025.9681	0	97468.92	2	4	2.97E+06	9.36E−04
Mg II	$2p^63s-2p^66p$	$^2S-^2P^o$	*946.7253*	0	*105627.26*	2	6	2.48E+06	9.98E−04
			946.7694	0	105622.34	2	2	2.47E+06	3.32E−04
			946.7033	0	105629.72	2	4	2.47E+06	6.65E−04
Mg II	$2p^63s-2p^67p$	$^2S-^2P^o$	*907.3873*	0	*110206.52*	2	6	1.79E+06	6.63E−04
			907.4115	0	110203.58	2	2	1.79E+06	2.21E−04
			907.3752	0	110207.99	2	4	1.79E+06	4.42E−04
Mg II	$2p^63s-2p^68p$	$^2S-^2P^o$	*884.7041*	0	*113032.14*	2	6	1.28E+06	4.49E−04
			884.7189	0	113030.25	2	2	1.28E+06	1.50E−04
			884.6967	0	113033.09	2	4	1.28E+06	3.00E−04
Mg II	$2p^63s-2p^69p$	$^2S-^2P^o$	*870.3366*	0	*114898.08*	2	6	9.28E+05	3.16E−04
			870.3463	0	114896.79	2	2	9.25E+05	1.05E−04
			870.3317	0	114898.72	2	4	9.29E+05	2.11E−04
Mg II	$2p^63s-2p^610p$	$^2S-^2P^o$	*860.6249*	0	*116194.6*	2	6	6.87E+05	2.29E−04
			860.6319	0	[116193.7]	2	2	6.86E+05	7.62E−05
			860.6215	0	[116195.1]	2	4	6.89E+05	1.53E−04
Mg III	$2s^22p^6-2p^53s$	$^1S-^1P^o$	231.7336	0	431530.0	1	3	9.90E+09	2.39E−01
Mg III	$2s^22p^6-2p^53d$	$^1S-^1P^o$	186.5143	0	536152.0	1	3	3.03E+10	4.74E−01
Mg IV	$2s^22p^5-2s2p^6$	$^2P^o-^2S$	*321.761*	*742.7*	311532	6	2	1.68E+10	8.69E−02
			323.307	2228	311532	2	2	5.52E+09	8.65E−02
			320.994	0	311532	4	2	1.13E+10	8.71E−02
Mg IV	$2s^22p^5-2p^4(^3P)3s$	$^2P^o-^2P$	*180.674*	*742.7*	*554224.7*	6	6	2.47E+10	1.21E−01
			181.344	2228	553666.1	2	4	4.06E+09	4.00E−02
			180.795	2228	555341.9	2	2	1.64E+10	8.03E−02
			180.6143	0	553666.1	4	4	2.07E+10	1.01E−01
			180.0693	0	555341.9	4	2	8.31E+09	2.02E−02
Mg IV	$2s^22p^5-2p^4(^1D)3s$	$^2P^o-^2D$	*171.873*	*742.7*	*582568.8*	6	10	9.65E+09	7.12E−02
			172.310	2228	582578.4	2	4	7.98E+09	7.10E−02
			171.6554	0	582562.4	4	6	9.69E+09	6.42E−02
			171.6507	0	582578.4	4	4	1.61E+09	7.13E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*160.419*	*742.7*	624109.6	6	2	1.02E+10	1.31E−02
			160.802	2228	624109.6	2	2	3.38E+09	1.31E−02
			160.2283	0	624109.6	4	2	6.86E+09	1.32E−02
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*147.153*	*742.7*	*680309.4*	6	10	6.06E+10	3.28E−01
			147.535	2228	680033.7	2	4	5.01E+10	3.27E−01
			147.0515	0	680033.7	4	4	1.01E+10	3.28E−02
			146.9522	0	680493.2	4	6	6.10E+10	2.96E−01
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*146.790*	*742.7*	*681989.6*	6	6	2.62E+10	8.47E−02
			147.320	2228	681023.3	2	2	1.73E+10	5.62E−02
			147.006	2228	682472.8	2	4	4.35E+09	2.82E−02
			146.8379	0	681023.3	4	2	8.72E+09	1.41E−02
			146.5260	0	682472.8	4	4	2.20E+10	7.07E−02
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*140.652*	*742.7*	*711715.3*	6	6	5.56E+10	1.65E−01
			140.963	2228	711632.7	2	4	9.20E+09	5.48E−02
			140.914	2228	711880.5	2	2	3.69E+10	1.10E−01
			140.5219	0	711632.7	4	4	4.63E+10	1.37E−01
			140.4730	0	711880.5	4	2	1.85E+10	2.74E−02
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*140.571*	*742.7*	712124.5	6	2	8.00E+10	7.90E−02
			140.866	2228	712124.5	2	2	2.65E+10	7.89E−02
			140.4249	0	712124.5	4	2	5.35E+10	7.91E−02
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*140.296*	*742.7*	*713519.6*	6	10	2.89E+10	1.42E−01
			140.557	2228	713682.5	2	4	2.40E+10	1.42E−01
			140.1717	0	713411.0	4	6	2.90E+10	1.28E−01
			140.1183	0	713682.5	4	4	4.82E+09	1.42E−02
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*138.305*	*742.7*	*723783.6*	6	6	7.95E+09	2.28E−02
			138.689	2228	723267.3	2	4	1.32E+09	7.59E−03
			138.391	2228	724816.3	2	2	5.29E+09	1.52E−02
			138.2615	0	723267.3	4	4	6.63E+09	1.90E−02
			137.9660	0	724816.3	4	2	2.68E+09	3.82E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*132.941*	*742.7*	*752958.0*	6	10	1.02E+10	4.50E−02
			133.197	2228	752997.4	2	4	8.44E+09	4.49E−02
			132.8142	0	752931.7	4	6	1.02E+10	4.05E−02
			132.8026	0	752997.4	4	4	1.70E+09	4.50E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*132.253*	*742.7*	*756870.0*	6	10	5.88E+08	2.57E−03
			132.512	2228	756875.8	2	4	4.86E+08	2.56E−03
			132.1238	0	756866.1	4	6	5.88E+08	2.31E−03
			132.1221	0	756875.8	4	4	9.82E+07	2.57E−04
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*130.027*	*742.7*	*769813*	6	10	3.91E+10	1.65E−01
			130.345	2228	769421	2	4	3.24E+10	1.65E−01
			129.968	0	769421	4	4	6.52E+09	1.65E−02
			129.857	0	770075	4	6	3.90E+10	1.48E−01
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*129.925*	*742.7*	*770417*	6	6	2.01E+10	5.09E−02
			130.356	2228	769356	2	2	1.33E+10	3.39E−02
			130.086	2228	770948	2	4	3.33E+09	1.69E−02
			129.979	0	769356	4	2	6.70E+09	8.48E−03
			129.710	0	770948	4	4	1.69E+10	4.26E−02
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*126.854*	*742.7*	*789048*	6	6	3.85E+09	9.28E−03
			127.161	2228	788632	2	4	6.37E+08	3.09E−03
			126.959	2228	789881	2	2	2.56E+09	6.18E−03
			126.802	0	788632	4	4	3.21E+09	7.73E−03
			126.601	0	789881	4	2	1.28E+09	1.54E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{S})4s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*125.579*	*742.7*	797056	6	2	1.42E+10	1.12E−02
			125.813	2228	797056	2	2	4.72E+09	1.12E−02
			125.462	0	797056	4	2	9.49E+09	1.12E−02
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*124.763*	*742.7*	*802265*	6	6	1.74E+10	4.05E−02
			124.998	2228	802244	2	4	2.88E+09	1.35E−02
			124.988	2228	802306	2	2	1.15E+10	2.70E−02
			124.650	0	802244	4	4	1.46E+10	3.39E−02
			124.641	0	802306	4	2	5.80E+09	6.76E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*124.649*	*742.7*	*802994*	6	10	6.18E+09	2.40E−02
			124.871	2228	803054	2	4	5.13E+09	2.40E−02
			124.540	0	802954	4	6	6.19E+09	2.16E−02
			124.525	0	803054	4	4	1.04E+09	2.41E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^\circ - ^2\mathrm{S}$	*124.531*	*742.7*	803754	6	2	2.84E+10	2.20E−02
			124.762	2228	803754	2	2	9.43E+09	2.20E−02
			124.416	0	803754	4	2	1.90E+10	2.20E−02
Mg IV	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*123.340*	*742.7*	*811509*	6	10	2.39E+10	9.07E−02
			123.508	2228	811892	2	4	1.98E+10	9.06E−02
			123.266	0	811254	4	6	2.39E+10	8.17E−02
			123.169	0	811892	4	4	3.99E+09	9.08E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5s$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*121.656*	*742.7*	*822734*	6	10	1.32E+09	4.89E−03
			121.876	2228	822734	2	4	1.10E+09	4.88E−03
			121.546	0	822734	4	4	2.21E+08	4.89E−04
				0		4	6	1.32E+09	4.40E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*118.588*	*742.7*	*843995*	6	6	5.60E+09	1.18E−02
			118.801	2228	843974	2	4	9.29E+08	3.93E−03
			118.792	2228	844036	2	2	3.71E+09	7.84E−03
			118.487	0	843974	4	4	4.67E+09	9.84E−03
			118.478	0	844036	4	2	1.86E+09	1.96E−03
Mg IV	$2s^2 2p^5 - 2p^4(^1\mathrm{S})4d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*118.528*	*742.7*	*844424*	6	10	6.38E+09	2.24E−02
			118.737	2228	844424	2	4	5.28E+09	2.23E−02
			118.424	0	844424	4	6	6.40E+09	2.02E−02
			118.424	0	844424	4	4	1.07E+09	2.24E−03
Mg V	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*353.1645*	*874.6*	*284028.7*	9	9	8.45E+09	1.58E−01
			355.3292	1783.1	283212.3	3	5	2.07E+09	6.53E−02
			354.2249	2521.8	284828.3	1	3	2.78E+09	1.57E−01
			353.3005	1783.1	284828.3	3	3	2.11E+09	3.94E−02
			353.0920	0	283212.3	5	5	6.31E+09	1.18E−01
			352.2009	1783.1	285712.0	3	1	8.50E+09	5.27E−02
			351.0887	0	284828.3	5	3	3.57E+09	3.96E−02
Mg V	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*146.270*	*874.6*	684541	9	3	4.73E+10	5.06E−02
			146.623	2521.8	684541	1	3	5.22E+09	5.05E−02
			146.465	1783.1	684541	3	3	1.57E+10	5.05E−02
			146.083	0	684541	5	3	2.64E+10	5.07E−02
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*137.574*	*874.6*	*727757*	9	15	1.54E+10	7.26E−02
			137.882	2521.8	727782	1	3	8.47E+09	7.24E−02
			137.745	1783.1	727763	3	5	1.15E+10	5.43E−02
			137.741	1783.1	727782	3	3	6.36E+09	1.81E−02
			137.411	0	727742	5	7	1.54E+10	6.10E−02
			137.407	0	727763	5	5	3.85E+09	1.09E−02
			137.404	0	727782	5	3	4.28E+08	7.27E−04
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*132.322*	*874.6*	*756605*	9	9	1.57E+10	4.11E−02
			132.618	2521.8	756566	1	3	5.18E+09	4.10E−02
			132.492	1783.1	756545	3	1	1.56E+10	1.37E−02
			132.488	1783.1	756566	3	3	3.88E+09	1.02E−02
			132.475	1783.1	756641	3	5	3.90E+09	1.71E−02
			132.176	0	756566	5	3	6.55E+09	1.03E−02
			132.163	0	756641	5	5	1.18E+10	3.09E−02
Mg V	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*121.781*	*874.6*	*822022*	9	15	6.99E+10	2.59E−01
			122.033	2521.8	821974	1	3	3.85E+10	2.58E−01
			121.923	1783.1	821974	3	3	2.89E+10	6.45E−02
			121.921	1783.1	821989	3	5	5.20E+10	1.93E−01
			121.658	0	821974	5	3	1.95E+09	2.59E−03
			121.656	0	821989	5	5	1.75E+10	3.88E−02
			121.645	0	822066	5	7	6.99E+10	2.17E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg V	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3D^o$	*114.887*	*874.6*	*871298*	9	15	7.37E+10	2.43E−01
			115.092	2521.8	871390	1	3	4.06E+10	2.42E−01
			114.999	1783.1	871357	3	5	5.54E+10	1.83E−01
			114.994	1783.1	871390	3	3	3.06E+10	6.07E−02
			114.782	0	871216	5	7	7.38E+10	2.04E−01
			114.764	0	871357	5	5	1.85E+10	3.65E−02
			114.759	0	871390	5	3	2.05E+09	2.43E−03
Mg V	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3P^o$	*114.135*	*874.6*	*877032*	9	9	1.47E+11	2.87E−01
			114.317	2521.8	877283	1	3	4.87E+10	2.86E−01
			114.284	1783.1	876795	3	5	3.65E+10	1.19E−01
			114.220	1783.1	877283	3	3	3.66E+10	7.16E−02
			114.197	1783.1	877463	3	1	1.46E+11	9.53E−02
			114.052	0	876795	5	5	1.10E+11	2.15E−01
			113.988	0	877283	5	3	6.13E+10	7.17E−02
Mg V	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3S^o$	*113.812*	*874.6*	879515	9	3	1.50E+11	9.69E−02
			114.026	2521.8	879515	1	3	1.65E+10	9.67E−02
			113.930	1783.1	879515	3	3	4.97E+10	9.68E−02
			113.699	0	879515	5	3	8.34E+10	9.70E−02
Mg V	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3P^o$	*111.3225*	*874.6*	*899165*	9	9	2.72E+10	5.06E−02
			111.5523	2521.8	898962	1	3	9.02E+09	5.05E−02
			111.4860	1783.1	898757	3	1	2.72E+10	1.69E−02
			111.4605	1783.1	898962	3	3	6.82E+09	1.27E−02
			111.4099	1783.1	899369	3	5	6.80E+09	2.11E−02
			111.2394	0	898962	5	3	1.14E+10	1.27E−02
			111.1891	0	899369	5	5	2.05E+10	3.80E−02
Mg V	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3D^o$	*110.9239*	*874.6*	*902394*	9	15	6.21E+10	1.91E−01
			111.0810	2521.8	902766	1	3	3.44E+10	1.91E−01
			111.0216	1783.1	902509	3	5	4.64E+10	1.43E−01
			110.9899	1783.1	902766	3	3	2.58E+10	4.77E−02
			110.8461	0	902152	5	7	6.24E+10	1.61E−01
			110.8022	0	902509	5	5	1.56E+10	2.87E−02
			110.7707	0	902766	5	3	1.73E+09	1.91E−03
Mg V	$2s^2 2p^4 - 2p^3(^4S^o)4s$	$^3P - ^3S^o$	*109.905*	*874.6*	910750	9	3	1.79E+10	1.08E−02
			110.104	2521.8	910750	1	3	1.98E+09	1.08E−02
			110.015	1783.1	910750	3	3	5.95E+09	1.08E−02
			109.800	0	910750	5	3	9.96E+09	1.08E−02
Mg V	$2s^2 2p^4 - 2p^3(^4S^o)4d$*	$^3P - ^3D^o$	*104.0347*	*874.6*	*962092*	9	15	5.77E+10	1.56E−01
			104.2109	2521.8	962114	1	3	3.19E+10	1.56E−01
			104.1320	1783.1	962103	3	5	4.32E+10	1.17E−01
			104.1308	1783.1	962114	3	3	2.39E+10	3.89E−02
			103.9420	0	962075	5	7	5.78E+10	1.31E−01
			103.9390	0	962103	5	5	1.44E+10	2.33E−02
			103.9378	0	962114	5	3	1.61E+09	1.56E−03
Mg V	$2s^2 2p^4 - 2p^3(^2D^o)4s$*	$^3P - ^3D^o$	*103.9987*	*874.6*	*962425*	9	15	5.77E+10	1.56E−01
			104.1791	2521.8	962407	1	3	3.20E+10	1.56E−01
			104.0990	1783.1	962407	3	5	4.32E+10	1.17E−01
			104.0990	1783.1	962407	3	3	2.39E+10	3.89E−02
			103.9061	0	962407	5	5	1.44E+10	2.33E−02
			103.9061	0	962407	5	3	1.61E+09	1.56E−03
			103.9020	0	962445	5	7	5.78E+10	1.31E−01
Mg V	$2s^2 2p^4 - 2p^3(^2P^o)4s$	$^3P - ^3P^o$	*101.04*	*874.6*	*990600*	9	9	3.53E+09	5.40E−03
			101.21?	2521.8	990600?	1	3	1.17E+09	5.39E−03
			101.13?	1783.1	990600?	3	3	8.80E+08	1.35E−03
			101.13?	1783.1	990600?	3	5	8.77E+08	2.24E−03
			101.13?	1783.1	990600?	3	1	3.52E+09	1.80E−03
			100.95?	0	990600?	5	5	2.66E+09	4.06E−03
			100.95?	0	990600?	5	3	1.47E+09	1.35E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*98.7165*	*874.6*	*1013877*	9	15	1.60E+10	3.90E−02
			98.8720	2521.8	1013931	1	3	8.85E+09	3.89E−02
			98.8031	1783.1	1013897	3	5	1.20E+10	2.93E−02
			98.7998	1783.1	1013931	3	3	6.66E+09	9.74E−03
			98.6350	0	1013839	5	7	1.61E+10	3.28E−02
			98.6293	0	1013897	5	5	4.02E+09	5.86E−03
			98.6260	0	1013931	5	3	4.46E+08	3.90E−04
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*98.339*	*874.6*	*1017760*	9	9	2.75E+10	3.99E−02
			98.476	2521.8	1018000	1	3	9.12E+09	3.98E−02
			98.441	1783.1	1017620	3	5	6.86E+09	1.66E−02
			98.404	1783.1	1018000	3	3	6.86E+09	9.96E−03
			98.269	0	1017620	5	5	2.07E+10	2.99E−02
			98.232	0	1018000	5	3	1.15E+10	9.98E−03
				1783.1		3	1	2.75E+10	1.33E−02
Mg V	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)5d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*97.475*	*874.6*	*1026780*	9	15	2.33E+10	5.52E−02
			97.632	2521.8	1026780	1	3	1.29E+10	5.51E−02
			97.561	1783.1	1026780	3	5	1.74E+10	4.14E−02
			97.561	1783.1	1026780	3	3	9.67E+09	1.38E−02
			97.392	0	1026780	5	7	2.33E+10	4.64E−02
			97.392	0	1026780	5	5	5.83E+09	8.29E−03
			97.392	0	1026780	5	3	6.48E+08	5.53E−04
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*95.984*	*874.6*	*1042710*	9	9	1.76E+10	2.43E−02
			96.149	2521.8	1042570	1	3	5.84E+09	2.43E−02
			96.081	1783.1	1042570	3	3	4.39E+09	6.07E−03
			96.060	1783.1	1042800	3	5	4.38E+09	1.01E−02
			95.917	0	1042570	5	3	7.36E+09	6.09E−03
			95.896	0	1042800	5	5	1.33E+10	1.83E−02
				1783.1		3	1	1.76E+10	8.11E−03
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*95.879*	*874.6*	*1043860*	9	15	3.27E+10	7.52E−02
			96.030	2521.8	1043860	1	3	1.81E+10	7.51E−02
			95.962	1783.1	1043860	3	5	2.45E+10	5.64E−02
			95.962	1783.1	1043860	3	3	1.36E+10	1.88E−02
			95.798	0	1043860	5	7	3.29E+10	6.33E−02
			95.798	0	1043860	5	5	8.21E+09	1.13E−02
			95.798	0	1043860	5	3	9.12E+08	7.53E−04
Mg V	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)5d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*92.506*	*874.6*	*1081880*	9	9	3.01E+10	3.86E−02
			92.648	2521.8	1081880	1	3	1.00E+10	3.86E−02
			92.584	1783.1	1081880	3	3	7.50E+09	9.64E−03
			92.584	1783.1	1081880	3	5	7.52E+09	1.61E−02
			92.432	0	1081880	5	5	2.26E+10	2.90E−02
			92.432	0	1081880	5	3	1.26E+10	9.66E−03
				1783.1		3	1	3.02E+10	1.29E−02
Mg VI	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*401.751*	0	*248910*	4	12	2.80E+09	2.03E−01
			403.310	0	247948	4	6	2.76E+09	1.01E−01
			400.667	0	249584	4	4	2.82E+09	6.78E−02
			399.281	0	250450	4	2	2.85E+09	3.41E−02
Mg VI	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*111.668*	0	*895510*	4	12	2.21E+10	1.24E−01
			111.864	0	893940	4	2	2.22E+10	2.08E−02
			111.746	0	894890	4	4	2.22E+10	4.16E−02
			111.552	0	896440	4	6	2.23E+10	6.25E−02
Mg VI	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*95.446*	0	*1047715*	4	12	3.08E+11	1.26E+00
			95.483	0	1047310	4	6	3.07E+11	6.29E−01
			95.421	0	1047990	4	4	3.08E+11	4.21E−01
			95.385	0	1048380	4	2	3.08E+11	2.10E−01
Mg VI	$2s^2 2p^3 - 2p^3(^5\mathrm{S}^\circ)3p$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*90.897*	0	*1100150*	4	12	4.55E+10	1.69E−01
			90.897	0	1100150	4	6	4.53E+10	8.42E−02
			90.897	0	1100150	4	4	4.53E+10	5.61E−02
			90.897	0	1100150	4	2	4.52E+10	2.80E−02
Mg VI	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*83.560*	0	*1196740*	4	12	7.16E+09	2.25E−02
			83.5603?	0	1196740?	4	6	7.13E+09	1.12E−02
				0		4	4	7.15E+09	7.48E−03
				0		4	2	7.15E+09	3.74E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg VI	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*79.8413*	0	*1252485*	4	12	7.74E+10	2.22E−01
			79.8569	0	1252240	4	6	7.74E+10	1.11E−01
			79.8301	0	1252660	4	4	7.72E+10	7.38E−02
			79.8167	0	1252870	4	2	7.75E+10	3.70E−02
Mg VI	$2s^2 2p^3 - 2p^2(^3\mathrm{P})5s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*75.856*	0	*1318280*	4	12	1.01E+10	2.62E−02
			75.890?	0	1317700?	4	4	1.01E+10	8.74E−03
			75.834?	0	1318670?	4	6	1.01E+10	1.31E−02
				0		4	2	1.02E+10	4.38E−03
Mg VI	$2s^2 2p^3 - 2p^3(^5\mathrm{S}^o)4p$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*74.5740*	0	*1340950*	4	12	3.70E+09	9.25E−03
			74.5740?	0	1340950?	4	6	3.69E+09	4.62E−03
			74.5740?	0	1340950?	4	4	3.69E+09	3.08E−03
			74.5740?	0	1340950?	4	2	3.69E+09	1.54E−03
Mg VII	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*433.035*	*1993*	*232922*	9	15	1.69E+09	7.94E−02
			434.917	2924	232853	5	7	1.67E+09	6.64E−02
			434.720	2924	232957	5	5	4.20E+08	1.19E−02
			434.594	2924	233024	5	3	4.66E+07	7.91E−04
			431.313	1107	232957	3	5	1.28E+09	5.97E−02
			431.189	1107	233024	3	3	7.14E+08	1.99E−02
			429.140	0	233024	1	3	9.66E+08	8.00E−02
Mg VII	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*366.417*	*1993*	*274906*	9	9	4.54E+09	9.13E−02
			367.684	2924	274897	5	3	1.87E+09	2.27E−02
			367.674	2924	274904	5	5	3.37E+09	6.83E−02
			365.243	1107	274897	3	3	1.14E+09	2.29E−02
			365.234	1107	274904	3	5	1.15E+09	3.82E−02
			365.177	1107	274947	3	1	4.58E+09	3.05E−02
			363.773	0	274897	1	3	1.55E+09	9.20E−02
Mg VII	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*277.682*	*1993*	362117	9	3	2.91E+10	1.12E−01
			278.402	2924	362117	5	3	1.59E+10	1.11E−01
			277.001	1107	362117	3	3	9.74E+09	1.12E−01
			276.154	0	362117	1	3	3.27E+09	1.12E−01
Mg VII	$2s^2 2p^2 - 2s^2 2p3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*95.447*	*1993*	*1049700*	9	9	5.15E+10	7.04E−02
			95.650	2924	1048400	5	3	2.14E+10	1.76E−02
			95.556	1107	1047610	3	1	5.15E+10	2.35E−02
			95.484	1107	1048400	3	3	1.29E+10	1.76E−02
			95.423	2924	1050890	5	5	3.87E+10	5.28E−02
			95.383	0	1048400	1	3	1.72E+10	7.04E−02
			95.258	1107	1050890	3	5	1.30E+10	2.95E−02
Mg VII	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*83.9981*	*1993*	*1192500*	9	15	4.41E+11	7.77E−01
			84.1166	2924	1191750	5	3	1.22E+10	7.76E−03
			84.0869	2924	1192170	5	5	1.09E+11	1.16E−01
			84.0247	2924	1193050	5	7	4.40E+11	6.52E−01
			83.9882	1107	1191750	3	3	1.83E+11	1.94E−01
			83.9586	1107	1192170	3	5	3.30E+11	5.82E−01
			83.9102	0	1191750	1	3	2.46E+11	7.78E−01
Mg VII	$2s^2 2p^2 - 2s^2 2p3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*83.6742*	*1993*	*1197110*	9	9	2.47E+11	2.59E−01
			83.7643	2924	1196750	5	5	1.84E+11	1.94E−01
			83.7152	2924	1197450	5	3	1.03E+11	6.47E−02
			83.6370	1107	1196750	3	5	6.18E+10	1.08E−01
			83.5881	1107	1197450	3	3	6.19E+10	6.48E−02
			83.5601	1107	1197850	3	1	2.48E+11	8.65E−02
			83.5108	0	1197450	1	3	8.29E+10	2.60E−01
Mg VII	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*81.0822*	*1993*	1235310	9	3	1.03E+11	3.37E−02
			81.1434	2924	1235310	5	3	5.69E+10	3.37E−02
			81.0239	1107	1235310	3	3	3.43E+10	3.38E−02
			80.9513	0	1235310	1	3	1.15E+10	3.38E−02
Mg VII	$2s^2 2p^2 - 2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*79.1424*	*1993*	*1265540*	9	15	8.50E+10	1.33E−01
			79.2465	2924	1264810	5	5	2.11E+10	1.99E−02
			79.1680?	2924	1266060?	5	7	8.44E+10	1.11E−01
			79.1325	1107	1264810	3	5	6.37E+10	9.96E−02
				0		1	3	4.69E+10	1.32E−01
				1107		3	3	3.52E+10	3.31E−02
				2924		5	3	2.34E+09	1.32E−03

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg VII	$2s^22p^2-2s2p^2(^4P)3p$	$^3P-^3P^o$	*78.462*	*1993*	*1276500*	9	9	8.07E+10	7.45E−02
			78.519	2924	1276500	5	5	6.05E+10	5.59E−02
			78.519	2924	1276500	5	3	3.37E+10	1.87E−02
			78.407	1107	1276500	3	3	2.03E+10	1.87E−02
			78.407	1107	1276500	3	5	2.02E+10	3.10E−02
			78.407	1107	1276500	3	1	8.07E+10	2.48E−02
			78.339	0	1276500	1	3	2.70E+10	7.46E−02
Mg VII	$2s^22p^2-2s2p^2(^2D)3p$	$^3P-^3D^o$	*77.0869*	*1993*	*1299230*	9	15	5.68E+09	8.43E−03
			77.1423	2924	1299230	5	7	5.66E+09	7.07E−03
			77.1423	2924	1299230	5	5	1.41E+09	1.26E−03
			77.1423	2924	1299230	5	3	1.57E+08	8.42E−05
			77.0343	1107	1299230	3	5	4.26E+09	6.32E−03
			77.0343	1107	1299230	3	3	2.37E+09	2.11E−03
			76.9687	0	1299230	1	3	3.17E+09	8.44E−03
Mg VII	$2s^22p^2-2s^22p4d$	$^3P-^3D^o$	*68.1174*	*1993*	*1470050*	9	15	1.50E+11	1.74E−01
			68.1842?	2924	1469540?	5	5	3.76E+10	2.62E−02
			68.1438?	2924	1470410?	5	7	1.51E+11	1.47E−01
			68.0998?	1107	1469540?	3	5	1.13E+11	1.31E−01
				0		1	3	8.34E+10	1.74E−01
				1107		3	3	6.27E+10	4.36E−02
				2924		5	3	4.17E+09	1.74E−03
Mg VII	$2s^22p^2-2s^22p4d$	$^3P-^3P^o$	*68.0209*	*1993*	*1472130*	9	9	8.53E+10	5.92E−02
			68.0640?	2924	1472130?	5	5	6.38E+10	4.43E−02
			67.9799?	1107	1472130?	3	5	2.14E+10	2.47E−02
				1107		3	3	2.13E+10	1.48E−02
				2924		5	3	3.56E+10	1.48E−02
				1107		3	1	8.52E+10	1.97E−02
				0		1	3	2.84E+10	5.91E−02
Mg VII	$2s^22p^2-2s2p^2(^4P)4p$	$^3P-^3D^o$	*63.3586*	*1993*	*1580310*	9	15	4.88E+10	4.89E−02
			63.3960?	2924	1580310?	5	7	4.87E+10	4.11E−02
				1107		3	5	3.64E+10	3.65E−02
				0		1	3	2.70E+10	4.87E−02
				2924		5	5	1.21E+10	7.30E−03
				1107		3	3	2.03E+10	1.22E−02
				2924		5	3	1.35E+09	4.87E−04
Mg VII	$2s^22p^2-2s^22p5d$	$^3P-^3P^o$	*62.6595*	*1993*	*1597920*	9	9	3.35E+10	1.97E−02
			62.6961?	2924	1597920?	5	5	2.51E+10	1.48E−02
			62.6247?	1107	1597920?	3	5	8.39E+09	8.22E−03
				1107		3	3	8.36E+09	4.92E−03
				2924		5	3	1.39E+10	4.92E−03
				1107		3	1	3.34E+10	6.55E−03
				0		1	3	1.12E+10	1.97E−02
Mg VII	$2s^22p^2-2s^22p6d$	$^3P-^3P^o$	*60.1042*	*1993*	*1665770*	9	9	2.51E+10	1.36E−02
			60.1379?	2924	1665770?	5	5	1.88E+10	1.02E−02
			60.1379?	2924	1665770?	5	3	1.04E+10	3.39E−03
			60.0722?	1107	1665770?	3	3	6.28E+09	3.40E−03
			60.0722?	1107	1665770?	3	5	6.28E+09	5.66E−03
			60.0722?	1107	1665770?	3	1	2.51E+10	4.53E−03
			60.0323?	0	1665770?	1	3	8.39E+09	1.36E−02
Mg VII	$2s^22p^2-2s2p^2(^4P)5p$	$^3P-^3D^o$	*58.2843*	*1993*	*1717720*	9	15	2.25E+10	1.91E−02
			58.3160?	2924	1717720?	5	7	2.26E+10	1.61E−02
				1107		3	5	1.68E+10	1.43E−02
				0		1	3	1.24E+10	1.90E−02
				2924		5	5	5.60E+09	2.85E−03
				1107		3	3	9.33E+09	4.75E−03
				2924		5	3	6.22E+08	1.90E−04
Mg VIII	$2s^22p-2s2p^2$	$^2P^o-^2D$	*434.620*	*2201*	*232287*	6	10	1.60E+09	7.56E−02
			436.735	3302	232274	4	6	1.58E+09	6.77E−02
			436.672	3302	232307	4	4	2.63E+08	7.52E−03
			430.465	0	232307	2	4	1.37E+09	7.63E−02
Mg VIII	$2s^22p-2s2p^2$	$^2P^o-^2S$	*337.746*	*2201*	298282	6	2	7.14E+09	4.07E−02
			339.006	3302	298282	4	2	4.70E+09	4.05E−02
			335.253	0	298282	2	2	2.43E+09	4.10E−02

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg VIII	$2s^22p-2s2p^2$	^{2}P$^o-^2$P	*314.609*	*2201*	*320056*	6	6	1.37E+10	2.03E−01
			317.039	3302	318721	4	2	4.47E+09	3.37E−02
			315.039	3302	320723	4	4	1.14E+10	1.69E−01
			313.754	0	318721	2	2	9.28E+09	1.37E−01
			311.796	0	320723	2	4	2.35E+09	6.86E−02
Mg VIII	$2s^22p-2s^23s$	^{2}P$^o-^2$S	*82.7480*	*2201*	1210690	6	2	7.60E+10	2.60E−02
			82.8234	3302	1210690	4	2	5.06E+10	2.60E−02
			82.5975	0	1210690	2	2	2.55E+10	2.61E−02
Mg VIII	$2s^22p-2s^23d$	^{2}P$^o-^2$D	*74.9760*	*2201*	*1335960*	6	10	4.31E+11	6.06E−01
			75.0436	3302	1335860	4	4	7.18E+10	6.06E−02
			75.0341	3302	1336030	4	6	4.31E+11	5.46E−01
			74.8581	0	1335860	2	4	3.61E+11	6.07E−01
Mg VIII	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$P	*71.0805*	*2201*	*1409060*	6	6	1.58E+11	1.20E−01
			71.1709	3302	1408370	4	2	5.27E+10	2.00E−02
			71.1188	3302	1409400	4	4	1.32E+11	1.00E−01
			71.0041	0	1408370	2	2	1.06E+11	8.04E−02
			70.9522	0	1409400	2	4	2.67E+10	4.03E−02
Mg VIII	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$D	*69.4570*	*2201*	*1441940*	6	10	1.71E+11	2.06E−01
			69.5745	3302	1440610	4	4	2.82E+10	2.05E−02
			69.4672	3302	1442830	4	6	1.71E+11	1.86E−01
			69.4150	0	1440610	2	4	1.43E+11	2.06E−01
Mg VIII	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$S	*68.5538*	*2201*	1460910	6	2	1.70E+11	3.99E−02
			68.6056	3302	1460910	4	2	1.13E+11	3.98E−02
			68.4505	0	1460910	2	2	5.68E+10	3.99E−02
Mg VIII	$2s^22p-2s2p(^1\mathrm{P}^o)3p$	^{2}P$^o-^2$D	*64.6559*	*2201*	*1548850*	6	10	1.79E+10	1.87E−02
			64.7020	3302	1548850	4	6	1.78E+10	1.68E−02
				0		2	4	1.49E+10	1.87E−02
				3302		4	4	2.98E+09	1.87E−03
Mg VIII	$2s^22p-2s2p(^1\mathrm{P}^o)3p$	^{2}P$^o-^2$P	*64.5924*	*2201*	*1550370*	6	6	5.64E+10	3.53E−02
			64.6543	3302	1549990	4	2	1.87E+10	5.87E−03
			64.6305	3302	1550560	4	4	4.68E+10	2.93E−02
			64.5165	0	1549990	2	2	3.77E+10	2.35E−02
			64.4928	0	1550560	2	4	9.38E+09	1.17E−02
Mg VIII	$2s^22p-2s2p(^1\mathrm{P}^o)3p$	^{2}P$^o-^2$S	*64.3340*	*2201*	1556590	6	2	4.77E+10	9.87E−03
			64.3796	3302	1556590	4	2	3.17E+10	9.86E−03
			64.2430	0	1556590	2	2	1.60E+10	9.89E−03
Mg VIII	$2s^22p-2p^2(^1\mathrm{D})3s$	^{2}P$^o-^2$D	*61.1027*	*2201*	*1638790*	6	10	8.35E+08	7.79E−04
			61.1438	3302	1638790	4	6	8.33E+08	7.00E−04
			61.1438	3302	1638790	4	4	1.39E+08	7.79E−05
			61.0206	0	1638790	2	4	6.99E+08	7.80E−04
Mg VIII	$2s^22p-2s^24s$	^{2}P$^o-^2$S	*60.7652*	*2201*	1647880	6	2	1.64E+10	3.02E−03
			60.8059	3302	1647880	4	2	1.09E+10	3.02E−03
			60.6840	0	1647880	2	2	5.49E+09	3.03E−03
Mg VIII	$2s^22p-2s^24d$	^{2}P$^o-^2$D	*59.1146*	*2201*	*1693830*	6	10	1.42E+11	1.24E−01
			59.1531	3302	1693830	4	6	1.42E+11	1.12E−01
			59.1531	3302	1693830	4	4	2.36E+10	1.24E−02
			59.0378	0	1693830	2	4	1.19E+11	1.24E−01
Mg VIII	$2s^22p-2p^2(^3\mathrm{P})3d$	^{2}P$^o-^2$D	*58.7862*	*2201*	*1703280*	6	10	1.42E+10	1.23E−02
			58.8243?	3302	1703280?	4	6	1.41E+10	1.10E−02
				0		2	4	1.21E+10	1.25E−02
				3302		4	4	2.41E+09	1.25E−03
Mg VIII	$2s^22p-2p^2(^1\mathrm{D})3d$	^{2}P$^o-^2$D	*57.747*	*2201*	*1733900*	6	10	6.70E+09	5.58E−03
			57.783?	3302	1733900?	4	6	6.70E+09	5.03E−03
				0		2	4	5.63E+09	5.63E−03
				3302		4	4	1.13E+09	5.63E−04

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg VIII	$2s^2 2p - 2p^2(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*57.0709*	*2201*	*1754410*	6	6	9.99E+09	4.88E−03
			57.1318?	3302	1753640?	4	2	3.32E+09	8.13E−04
			57.0943?	3302	1754790?	4	4	8.31E+09	4.06E−03
			57.0242?	0	1753640?	2	2	6.69E+09	3.26E−03
			56.9869?	0	1754790?	2	4	1.67E+09	1.63E−03
Mg VIII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*55.1886*	*2201*	*1814170*	6	6	7.14E+10	3.26E−02
			55.2221?	3302	1814170?	4	4	5.95E+10	2.72E−02
			55.1216?	0	1814170?	2	4	1.19E+10	1.08E−02
				0		2	2	4.75E+10	2.17E−02
				3302		4	2	2.37E+10	5.42E−03
Mg VIII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*54.8795*	*2201*	*1824380*	6	10	6.87E+10	5.17E−02
			54.9527?	3302	1823050?	4	4	1.14E+10	5.16E−03
			54.8860?	3302	1825260?	4	6	6.85E+10	4.64E−02
			54.8531?	0	1823050?	2	4	5.73E+10	5.17E−02
Mg VIII	$2s^2 2p - 2s^2 5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*53.8741*	*2201*	*1858380*	6	10	6.45E+10	4.68E−02
			53.9078	3302	1858320	4	4	1.07E+10	4.68E−03
			53.9049	3302	1858420	4	6	6.44E+10	4.21E−02
			53.8120	0	1858320	2	4	5.39E+10	4.68E−02
Mg VIII	$2s^2 2p - 2s^2 6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*51.4441*	*2201*	*1946060*	6	10	2.42E+10	1.60E−02
			51.4732	3302	1946060	4	6	2.42E+10	1.44E−02
			51.4732	3302	1946060	4	4	4.05E+09	1.61E−03
			51.3859	0	1946060	2	4	2.02E+10	1.60E−02
Mg VIII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)5p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*50.1913*	*2201*	*1994580*	6	10	3.80E+10	2.39E−02
			50.2190	3302	1994580	4	6	3.81E+10	2.16E−02
				0		2	4	3.15E+10	2.38E−02
				3302		4	4	6.30E+09	2.38E−03
Mg IX	$2s^2 - 2s2p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	368.071	0	271687	1	3	5.15E+09	3.14E−01
Mg IX	$2s^2 - 2s3p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	62.7510	0	1593600	1	3	3.07E+11	5.43E−01
Mg IX	$2s^2 - 2p3s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	57.3710	0	1743040	1	3	9.19E+09	1.36E−02
Mg IX	$2s^2 - 2p3d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	54.3018	0	1841560	1	3	2.58E+10	3.42E−02
Mg IX	$2s^2 - 2s4p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	48.3400	0	2068680	1	3	1.36E+11	1.43E−01
Mg IX	$2s^2 - 2p4d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	44.2809	0	2258310	1	3	2.60E+10	2.29E−02
Mg IX	$2s^2 - 2s5p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	43.8429	0	2280870	1	3	5.63E+10	4.87E−02
Mg IX	$2s^2 - 2s6p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	41.8030	0	2392170	1	3	4.22E+10	3.32E−02
Mg IX	$2s^2 - 2s7p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	40.6380	0	2460750	1	3	1.74E+10	1.29E−02
Mg X	$1s^2 2s - 1s^2 2p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*614.760*	0	*162665*	2	6	7.41E+08	1.26E−01
			624.941	0	160015	2	2	7.00E+08	4.10E−02
			609.793	0	163990	2	4	7.55E+08	8.42E−02
Mg X	$1s^2 2s - 1s^2 3p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*57.8907*	0	*1727390*	2	6	2.16E+11	3.26E−01
			57.9200	0	1726520	2	2	2.15E+11	1.08E−01
			57.8761	0	1727830	2	4	2.17E+11	2.18E−01
Mg X	$1s^2 2s - 1s^2 4p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*44.0500*	0	*2270150*	2	6	9.76E+10	8.52E−02
			44.0500	0	2270150	2	4	9.76E+10	5.68E−02
			44.0500	0	2270150	2	2	9.76E+10	2.84E−02
Mg X	$1s^2 2s - 1s^2 5p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*39.668*	0	*2520900*	2	6	5.10E+10	3.61E−02
			39.668	0	2520900	2	4	5.11E+10	2.41E−02
			39.668	0	2520900	2	2	5.09E+10	1.20E−02
Mg X	$1s^2 2s - 1s^2 6p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*37.644*	0	*2656500*	2	6	2.97E+10	1.89E−02
			37.644	0	2656500	2	4	2.97E+10	1.26E−02
			37.644	0	2656500	2	2	2.96E+10	6.29E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Mg X	$1s^2 2s - 1s^2 7p$	^{2}S$-^2$P^o	*36.518*	0	*2738400*	2	6	1.87E+10	1.12E−02
			36.518	0	2738400	2	4	1.87E+10	7.48E−03
			36.518	0	2738400	2	2	1.87E+10	3.74E−03
Mg X	$1s^2 2s - 1s^2 8p$	^{2}S$-^2$P^o	*35.827*	0	*2791200*	2	6	1.26E+10	7.26E−03
			35.827	0	2791200	2	4	1.26E+10	4.84E−03
			35.827	0	2791200	2	2	1.26E+10	2.42E−03
Mg X	$1s^2 2s - 1s^2 9p$	^{2}S$-^2$P^o	*35.366*	0	*2827600*	2	6	8.82E+09	4.96E−03
			35.366	0	2827600	2	4	8.83E+09	3.31E−03
			35.366	0	2827600	2	2	8.80E+09	1.65E−03
Mg XI	$1s^2 - 1s2p$	^{1}S$-^1$P^o	9.1688	0	[10906612]	1	3	1.96E+13	7.42E−01
Mg XI	$1s^2 - 1s3p$	^{1}S$-^1$P^o	7.8505	0	[12738006]	1	3	5.45E+12	1.51E−01
Mg XI	$1s^2 - 1s4p$	^{1}S$-^1$P^o	7.4731	0	[13381265]	1	3	2.25E+12	5.65E−02
Mg XI	$1s^2 - 1s5p$	^{1}S$-^1$P^o	7.3103	0	[13679363]	1	3	1.14E+12	2.73E−02
Mg XI	$1s^2 - 1s6p$	^{1}S$-^1$P^o	7.2247	0	[13841392]	1	3	6.52E+11	1.53E−02
Mg XI	$1s^2 - 1s7p$	^{1}S$-^1$P^o	7.1741	0	[13939122]	1	3	4.11E+11	9.52E−03
Mg XI	$1s^2 - 1s8p$	^{1}S$-^1$P^o	7.1415	0	[14002566]	1	3	2.75E+11	6.31E−03
Mg XI	$1s^2 - 1s9p$	^{1}S$-^1$P^o	7.1194	0	[14046070]	1	3	1.93E+11	4.40E−03
Mg XI	$1s^2 - 1s10p$	^{1}S$-^1$P^o	7.1037	0	[14077192]	1	3	1.41E+11	3.19E−03
Mg XII	$1s - 2p$	^{2}S$-^2$P^o	*8.4210*	0	*11875057*	2	6	1.30E+13	4.16E−01
			8.4246	0	[11869972]	2	2	1.31E+13	1.39E−01
			8.4192	0	[11877599]	2	4	1.30E+13	2.77E−01
Mg XII	$1s - 3p$	^{2}S$-^2$P^o	*7.1062*	0	*14072308*	2	6	3.48E+12	7.90E−02
			7.1069	0	[14070801]	2	2	3.47E+12	2.63E−02
			7.1058	0	[14073061]	2	4	3.48E+12	5.27E−02
Mg XII	$1s - 4p$	^{2}S$-^2$P^o	*6.7379*	0	*14841416*	2	6	1.42E+12	2.90E−02
			6.7382	0	[14840780]	2	2	1.42E+12	9.67E−03
			6.7378	0	[14841734]	2	4	1.42E+12	1.93E−02
Mg XII	$1s - 5p$	^{2}S$-^2$P^o	*6.5801*	0	*15197364*	2	6	7.14E+11	1.39E−02
			6.5802	0	[15197039]	2	2	7.16E+11	4.65E−03
			6.5800	0	[15197527]	2	4	7.16E+11	9.30E−03
Mg XII	$1s - 6p$	^{2}S$-^2$P^o	*6.4974*	0	*15390694*	2	6	4.11E+11	7.80E−03
			6.4975	0	[15390506]	2	2	4.11E+11	2.60E−03
			6.4974	0	[15390789]	2	4	4.11E+11	5.20E−03
Mg XII	$1s - 7p$	^{2}S$-^2$P^o	*6.4486*	0	*15507254*	2	6	2.58E+11	4.82E−03
			6.4486	0	[15507313]	2	4	2.57E+11	3.21E−03
			6.4486	0	[15507136]	2	2	2.57E+11	1.60E−03
Mg XII	$1s - 8p$	^{2}S$-^2$P^o	*6.4173*	0	*15582899*	2	6	1.72E+11	3.19E−03
			6.4173	0	[15582939]	2	4	1.72E+11	2.12E−03
			6.4173	0	[15582820]	2	2	1.72E+11	1.06E−03
Mg XII	$1s - 9p$	^{2}S$-^2$P^o	*6.3960*	0	*15634757*	2	6	1.21E+11	2.22E−03
			6.3960	0	[15634785]	2	4	1.21E+11	1.48E−03
			6.3960	0	[15634701]	2	2	1.20E+11	7.38E−04
Mg XII	$1s - 10p$	^{2}S$-^2$P^o	*6.3809*	0	*15671848*	2	6	8.74E+10	1.60E−03
			6.3809	0	[15671868]	2	4	8.76E+10	1.07E−03
			6.3809	0	[15671807]	2	2	8.76E+10	5.35E−04
Al I	$3s^2 3p - 3s^2 4s$	^{2}P$^o-^2$S	*3956.7842*	*74.707*	25347.756	6	2	1.56E+08	1.22E−01
			3962.6410	112.061	25347.756	4	2	1.04E+08	1.23E−01
			3945.1224	0	25347.756	2	2	5.27E+07	1.23E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al I	$3s^2 3p - 3s^2 3d$	$^2P^o - ^2D$	*3090.0867*	*74.707*	*32436.259*	6	10	6.75E+07	1.61E−01
			3093.7347	112.061	32435.453	4	4	1.12E+07	1.61E−02
			3093.6062	112.061	32436.796	4	6	6.74E+07	1.45E−01
			3083.0462	0	32435.453	2	4	5.68E+07	1.62E−01
Al I	$3s^2 3p - 3s^2 5s$	$^2P^o - ^2S$	*2658.5351*	*74.707*	37689.407	6	2	4.13E+07	1.46E−02
			2661.1778	112.061	37689.407	4	2	2.75E+07	1.46E−02
			2653.2654	0	37689.407	2	2	1.39E+07	1.47E−02
Al I	$3s^2 3p - 3s^2 6s$	$^2P^o - ^2S$	*2377.0075*	*74.707*	42144.411	6	2	1.72E+07	4.85E−03
			2379.1199	112.061	42144.411	4	2	1.14E+07	4.84E−03
			2372.7939	0	42144.411	2	2	5.76E+06	4.86E−03
Al I	$3s^2 3p - 3s^2 4d$	$^2P^o - ^2D$	*2371.8344*	*74.707*	*42236.167*	6	10	4.60E+07	6.47E−02
			2374.0743	112.061	42233.742	4	4	7.64E+06	6.46E−03
			2373.8466	112.061	42237.783	4	6	4.59E+07	5.82E−02
			2367.7750	0	42233.742	2	4	3.85E+07	6.48E−02
Al I	$3s^2 3p - 3s^2 5d$	$^2P^o - ^2D$	*2267.9255*	*74.707*	*44167.867*	6	10	1.03E+08	1.33E−01
			2269.9241	112.061	44166.398	4	4	1.73E+07	1.34E−02
			2269.7979	112.061	44168.847	4	6	1.04E+08	1.20E−01
			2264.1647	0	44166.398	2	4	8.65E+07	1.33E−01
Al I	$3s^2 3p - 3s^2 7s$	$^2P^o - ^2S$	*2262.5240*	*74.707*	44273.133	6	2	9.07E+06	2.32E−03
			2264.4378	112.061	44273.133	4	2	6.04E+06	2.32E−03
			2258.7062	0	44273.133	2	2	3.05E+06	2.33E−03
Al I	$3s^2 3p - 3s^2 6d$	$^2P^o - ^2D$	*2208.9530*	*74.707*	*45345.022*	6	10	8.20E+07	1.00E−01
			2210.8191	112.061	45344.165	4	4	1.36E+07	1.00E−02
			2210.7493	112.061	45345.594	4	6	8.20E+07	9.01E−02
			2205.3554	0	45344.165	2	4	6.86E+07	1.00E−01
Al I	$3s^2 3p - 3s^2 8s$	$^2P^o - ^2S$	*2203.4908*	*74.707*	45457.244	6	2	5.36E+06	1.30E−03
			2205.3059	112.061	45457.244	4	2	3.57E+06	1.30E−03
			2199.8694	0	45457.244	2	2	1.79E+06	1.30E−03
Al I	$3s^2 3p - 3s^2 7d$	$^2P^o - ^2D$	*2173.0037*	*74.707*	*46093.957*	6	10	5.48E+07	6.46E−02
			2174.7942	112.061	46093.424	4	4	9.11E+06	6.46E−03
			2174.7522	112.061	46094.312	4	6	5.46E+07	5.81E−02
			2169.5069	0	46093.424	2	4	4.58E+07	6.47E−02
Al I	$3s^2 3p - 3s^2 9s$	$^2P^o - ^2S$	*2168.7652*	*74.707*	46183.895	6	2	3.40E+06	8.00E−04
			2170.5235	112.061	46183.895	4	2	2.27E+06	8.00E−04
			2165.2570	0	46183.895	2	2	1.14E+06	8.02E−04
Al I	$3s^2 3p - 3s^2 8d$	$^2P^o - ^2D$	*2149.660*	*74.707*	*46593.70*	6	10	3.65E+07	4.21E−02
			2151.405	112.061	46593.32	4	4	6.07E+06	4.21E−03
			2151.376	112.061	46593.95	4	6	3.64E+07	3.79E−02
			2146.230	0	46593.32	2	4	3.06E+07	4.22E−02
Al I	$3s^2 3p - 3s^2 10s$	$^2P^o - ^2S$	*2146.511*	*74.707*	46661.93	6	2	2.30E+06	5.30E−04
			2148.234	112.061	[46661.93]	4	2	1.53E+06	5.29E−04
			2143.075	0	[46661.93]	2	2	7.71E+05	5.31E−04
Al I	$3s^2 3p - 3s^2 9d$	$^2P^o - ^2D$	*2133.715*	*74.707*	*46941.32*	6	10	2.52E+07	2.87E−02
			2135.433	112.061	46940.97	4	4	4.18E+06	2.86E−03
			2135.407	112.061	46941.55	4	6	2.52E+07	2.58E−02
			2130.335	0	46940.97	2	4	2.11E+07	2.87E−02
Al I	$3s^2 3p - 3s^2 11s$	$^2P^o - ^2S$	*2131.360*	*74.707*	46993.11	6	2	1.62E+06	3.68E−04
			2133.058	112.061	[46993.11]	4	2	1.08E+06	3.68E−04
			2127.972	0	[46993.11]	2	2	5.44E+05	3.69E−04
Al I	$3s^2 3p - 3s^2 10d$	$^2P^o - ^2D$	*2122.35*	*74.707*	*47192.3*	6	10	1.79E+07	2.01E−02
			2124.03	112.061	47192.3	4	6	1.78E+07	1.81E−02
			2124.030	112.061	47192.38	4	4	2.97E+06	2.01E−03
			2118.986	0	47192.38	2	4	1.49E+07	2.01E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al I	$3s^2 3p - 3s3p^2$	^{2}P^o – ^{2}P	*1766.1316*	*74.707*	*56695.631*	6	6	1.70E+09	7.96E−01
			1769.1327	112.061	56636.933	4	2	5.63E+08	1.32E−01
			1766.3813	112.061	56724.980	4	4	1.42E+09	6.63E−01
			1765.6323	0	56636.933	2	2	1.14E+09	5.31E−01
			1762.8918	0	56724.980	2	4	2.85E+08	2.66E−01
Al I	$3s^2 3p - 3s3p(^3\mathrm{P}^o)4p$	^{2}P^o – ^{2}P	*1415.01*	*74.707*	*70745.5*	6	6	3.96E+08	1.19E−01
			1416.48	112.061	70709.4	4	2	1.32E+08	1.99E−02
			1415.40	112.061	70763.5	4	4	3.31E+08	9.95E−02
			1414.24	0	70709.4	2	2	2.66E+08	7.97E−02
			1413.16	0	70763.5	2	4	6.65E+07	3.98E−02
Al I	$3s^2 3p - 3s3p(^3\mathrm{P}^o)5p$	^{2}P^o – ^{2}P	*1288.03*	*74.707*	*77712.7*	6	6	5.83E+07	1.45E−02
			1288.65	112.061	77712.7	4	4	4.86E+07	1.21E−02
			1286.79	0	77712.7	2	4	9.71E+06	4.82E−03
				0		2	2	3.85E+07	9.58E−03
				112.061		4	2	1.92E+07	2.39E−03
Al II	$3s^2 - 3s3p$	^{1}S – ^{1}P^o	1670.787	0	59852.02	1	3	1.44E+09	1.81E+00
Al II	$3s^2 - 3s4p$	^{1}S – ^{1}P^o	935.2738	0	106920.56	1	3	7.63E+06	3.00E−03
Al II	$3s^2 - 3s5p$	^{1}S – ^{1}P^o	794.4767	0	125869.015	1	3	1.99E+06	5.65E−04
Al II	$3s^2 - 3s6p$	^{1}S – ^{1}P^o	741.1833	0	134919.40	1	3	4.41E+06	1.09E−03
Al II	$3s^2 - 3s7p$	^{1}S – ^{1}P^o	714.6993	0	139918.98	1	3	4.79E+06	1.10E−03
Al II	$3s^2 - 3s8p$	^{1}S – ^{1}P^o	699.4905	0	142961.20	1	3	4.77E+06	1.05E−03
Al II	$3s^2 - 3s9p$	^{1}S – ^{1}P^o	689.9354	0	144941.10	1	3	4.65E+06	9.95E−04
Al II	$3s^2 - 3s10p$	^{1}S – ^{1}P^o	683.5274	0	146299.92	1	3	4.50E+06	9.45E−04
Al II	$3s^2 - 3s11p$	^{1}S – ^{1}P^o	679.0211	0	147270.82	1	3	4.13E+06	8.56E−04
Al III	$2p^6 3s - 2p^6 3p$	^{2}S – ^{2}P^o	*1857.400*	0	*53838.71*	2	6	5.55E+08	8.61E−01
			1862.790	0	53682.93	2	2	5.50E+08	2.86E−01
			1854.716	0	53916.60	2	4	5.57E+08	5.75E−01
Al III	$2p^6 3s - 2p^6 4p$	^{2}S – ^{2}P^o	*695.9582*	0	*143686.79*	2	6	6.33E+07	1.38E−02
			696.2170	0	143633.38	2	2	6.36E+07	4.62E−03
			695.8289	0	143713.50	2	4	6.38E+07	9.26E−03
Al III	$2p^6 3s - 2p^6 5p$	^{2}S – ^{2}P^o	*560.3559*	0	*178458.02*	2	6	5.69E+07	8.03E−03
			560.4331	0	178433.43	2	2	5.67E+07	2.67E−03
			560.3173	0	178470.32	2	4	5.68E+07	5.35E−03
Al III	$2p^6 3s - 2p^6 6p$	^{2}S – ^{2}P^o	*511.1558*	0	*195635.07*	2	6	3.78E+07	4.44E−03
			511.1907	0	195621.72	2	2	3.78E+07	1.48E−03
			511.1384	0	195641.74	2	4	3.78E+07	2.96E−03
Al III	$2p^6 3s - 2p^6 7p$	^{2}S – ^{2}P^o	*486.8934*	0	*205383.76*	2	6	2.49E+07	2.66E−03
			486.9124	0	205375.74	2	2	2.50E+07	8.90E−04
			486.8839	0	205387.77	2	4	2.50E+07	1.78E−03
Al IV	$2s^2 2p^6 - 2p^5 3s$	^{1}S – ^{1}P^o	160.0724	0	624717.5	1	3	2.13E+10	2.45E−01
Al IV	$2s^2 2p^6 - 2p^5 3d$	^{1}S – ^{1}P^o	129.7291	0	770836.9	1	3	1.03E+11	7.78E−01
Al V	$2s^2 2p^5 - 2s2p^6$	^{2}P^o – ^{2}S	*279.588*	*1147*	358816	6	2	2.14E+10	8.36E−02
			281.394	3442	358816	2	2	7.00E+09	8.31E−02
			278.694	0	358816	4	2	1.44E+10	8.39E−02
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3s$	^{2}P^o – ^{2}P	*130.8986*	*1147*	*765097.7*	6	6	4.63E+10	1.19E−01
			131.4391	3442	764250.4	2	4	7.61E+09	3.94E−02
			131.0015	3442	766792.2	2	2	3.07E+10	7.91E−02
			130.8472	0	764250.4	4	4	3.86E+10	9.90E−02
			130.4134	0	766792.2	4	2	1.56E+10	1.99E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*125.7091*	*1147*	*796634.6*	6	10	1.81E+10	7.13E−02
			126.0699	3442	796652.9	2	4	1.49E+10	7.11E−02
			125.5300	0	796622.4	4	6	1.81E+10	6.43E−02
			125.5252	0	796652.9	4	4	3.02E+09	7.14E−03
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*118.657*	*1147*	843914	6	2	1.89E+10	1.33E−02
			118.981	3442	843914	2	2	6.22E+09	1.32E−02
			118.495	0	843914	4	2	1.26E+10	1.33E−02
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*108.1247*	*1147*	*926006*	6	10	1.34E+11	3.92E−01
			108.4610	3442	925432	2	4	1.11E+11	3.91E−01
			108.0576	0	925432	4	4	2.24E+10	3.92E−02
			107.9461	0	926388	4	6	1.35E+11	3.53E−01
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*107.9421*	*1147*	*927570*	6	6	5.04E+10	8.80E−02
			108.4067	3442	925894	2	2	3.32E+10	5.85E−02
			108.1121	3442	928408	2	4	8.36E+09	2.93E−02
			108.0037	0	925894	4	2	1.68E+10	1.47E−02
			107.7113	0	928408	4	4	4.23E+10	7.35E−02
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*104.2462*	*1147*	960415	6	2	1.88E+11	1.02E−01
			104.4962	3442	960415	2	2	6.23E+10	1.02E−01
			104.1217	0	960415	4	2	1.26E+11	1.02E−01
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*104.1691*	*1147*	*961125*	6	6	1.52E+11	2.48E−01
			104.4467	3442	960868	2	4	2.53E+10	8.26E−02
			104.3628	3442	961638	2	2	1.02E+11	1.66E−01
			104.0726	0	960868	4	4	1.27E+11	2.07E−01
			103.9892	0	961638	4	2	5.12E+10	4.15E−02
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*103.9762*	*1147*	*962906*	6	10	8.77E+10	2.37E−01
			104.1800	3442	963319	2	4	7.28E+10	2.37E−01
			103.8820	0	962631	4	6	8.78E+10	2.13E−01
			103.8078	0	963319	4	4	1.47E+10	2.37E−02
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*99.4625*	*1147*	*1006551*	6	6	1.55E+10	2.30E−02
			99.7658	3442	1005790	2	4	2.56E+09	7.65E−03
			99.5390	3442	1008073	2	2	1.03E+10	1.53E−02
			99.4243	0	1005790	4	4	1.30E+10	1.92E−02
			99.1992	0	1008073	4	2	5.21E+09	3.84E−03
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*99.3980*	*1147*	*1007204*	6	10	2.52E+10	6.23E−02
			99.6167	3442	1007290	2	4	2.09E+10	6.21E−02
			99.2905	0	1007146	4	6	2.53E+10	5.61E−02
			99.2763	0	1007290	4	4	4.22E+09	6.23E−03
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*95.9376*	*1147*	*1043492*	6	10	4.87E+09	1.12E−02
			96.1489	3442	1043495	2	4	4.04E+09	1.12E−02
			95.8323	0	1043490	4	6	4.89E+09	1.01E−02
			95.8318	0	1043495	4	4	8.13E+08	1.12E−03
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*93.896*	*1147*	*1066150*	6	10	8.62E+10	1.90E−01
			94.160	3442	1065460	2	4	7.15E+10	1.90E−01
			93.856	0	1065460	4	4	1.44E+10	1.90E−02
			93.755	0	1066610	4	6	8.65E+10	1.71E−01
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*93.830*	*1147*	*1066900*	6	6	4.45E+10	5.88E−02
			94.186	3442	1065170	2	2	2.93E+10	3.90E−02
			93.956	3442	1067770	2	4	7.40E+09	1.96E−02
			93.882	0	1065170	4	2	1.48E+10	9.79E−03
			93.653	0	1067770	4	4	3.73E+10	4.91E−02
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{S})4s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*91.8434*	*1147*	1089957	6	2	1.41E+10	5.95E−03
			92.0374	3442	1089957	2	2	4.68E+09	5.94E−03
			91.7467	0	1089957	4	2	9.45E+09	5.96E−03
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*90.794*	*1147*	1102540	6	2	8.20E+10	3.38E−02
			90.984	3442	1102540	2	2	2.72E+10	3.37E−02
			90.700	0	1102540	4	2	5.48E+10	3.38E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*90.779*	*1147*	*1102720*	6	6	4.58E+10	5.66E−02
			91.078	3442	1101400	2	2	3.02E+10	3.76E−02
			90.914	3442	1103380	2	4	7.59E+09	1.88E−02
			90.794	0	1101400	4	2	1.53E+10	9.43E−03
			90.631	0	1103380	4	4	3.83E+10	4.72E−02
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*90.741*	*1147*	*1103190*	6	10	2.51E+10	5.17E−02
			90.646	0	1103190	4	6	2.52E+10	4.66E−02
				3442		2	4	2.09E+10	5.17E−02
				0		4	4	4.19E+09	5.17E−03
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*88.564*	*1147*	*1130280*	6	10	5.10E+10	1.00E−01
			88.817	3442	1129350	2	4	4.22E+10	9.99E−02
			88.547	0	1129350	4	4	8.51E+09	1.00E−02
			88.425	0	1130900	4	6	5.15E+10	9.06E−02
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*88.456*	*1147*	*1131650*	6	6	3.35E+10	3.93E−02
			88.636	3442	1131650	2	4	5.56E+09	1.31E−02
			88.367	0	1131650	4	4	2.79E+10	3.27E−02
				3442		2	2	2.22E+10	2.61E−02
				0		4	2	1.11E+10	6.53E−03
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{S})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*87.1040*	*1147*	*1149200*	6	10	1.69E+10	3.20E−02
			87.2739	3442	1149260	2	4	1.40E+10	3.20E−02
			87.0201	0	1149160	4	6	1.69E+10	2.88E−02
			87.0125	0	1149260	4	4	2.83E+09	3.21E−03
Al V	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*85.9356*	*1147*	*1164810*	6	10	5.47E+08	1.01E−03
			86.1766	3442	1163850	2	4	4.54E+08	1.01E−03
			85.9217	0	1163850	4	4	9.13E+07	1.01E−04
			85.8038	0	1165450	4	6	5.50E+08	9.11E−04
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*85.7462*	*1147*	1167380	6	2	6.07E+10	2.23E−02
			85.9152	3442	1167380	2	2	2.02E+10	2.23E−02
			85.6619	0	1167380	4	2	4.05E+10	2.23E−02
Al V	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*85.6962*	*1147*	*1168060*	6	6	2.38E+10	2.62E−02
			85.8651	3442	1168060	2	4	3.94E+09	8.71E−03
			85.6120	0	1168060	4	4	1.98E+10	2.18E−02
				3442		2	2	1.58E+10	1.74E−02
				0		4	2	7.92E+09	4.36E−03
Al VI	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*309.682*	*1336*	*324248*	9	9	1.04E+10	1.49E−01
			312.237	2732	323002	3	5	2.53E+09	6.17E−02
			310.907	3829	325469	1	3	3.43E+09	1.49E−01
			309.850	2732	325469	3	3	2.59E+09	3.73E−02
			309.596	0	323002	5	5	7.79E+09	1.12E−01
			308.563	2732	326815	3	1	1.05E+10	4.99E−02
			307.249	0	325469	5	3	4.43E+09	3.76E−02
Al VI	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*109.6761*	*1336*	913112	9	3	8.15E+10	4.90E−02
			109.9768	3829	913112	1	3	8.99E+09	4.89E−02
			109.8442	2732	913112	3	3	2.70E+10	4.89E−02
			109.5156	0	913112	5	3	4.55E+10	4.91E−02
Al VI	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*104.19*	*1336*	*961100*	9	15	2.64E+10	7.16E−02
			104.46	3829	961100	1	3	1.45E+10	7.14E−02
			104.34	2732	961100	3	5	1.97E+10	5.36E−02
			104.34	2732	961100	3	3	1.10E+10	1.79E−02
			104.05	0	961100	5	7	2.65E+10	6.02E−02
			104.05	0	961100	5	5	6.65E+09	1.08E−02
			104.05	0	961100	5	3	7.36E+08	7.17E−04
Al VI	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*100.7625*	*1336*	*993769*	9	9	2.67E+10	4.06E−02
			101.0274	3829	993659	1	3	8.82E+09	4.05E−02
			100.9247	2732	993570	3	1	2.65E+10	1.35E−02
			100.9156	2732	993659	3	3	6.62E+09	1.01E−02
			100.8937	2732	993874	3	5	6.64E+09	1.69E−02
			100.6381	0	993659	5	3	1.12E+10	1.02E−02
			100.6164	0	993874	5	5	2.01E+10	3.05E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al VI	$2s^2 2p^4 - 2p^3(^4S^o)3d$	$^3P - ^3D^o$	*92.7482*	*1336*	*1079524*	9	15	1.27E+11	2.72E−01
			92.9707	3829	1079437	1	3	6.97E+10	2.71E−01
			92.8760	2732	1079437	3	3	5.25E+10	6.79E−02
			92.8743	2732	1079456	3	5	9.42E+10	2.03E−01
			92.6409	0	1079437	5	3	3.52E+09	2.72E−03
			92.6393	0	1079456	5	5	3.17E+10	4.08E−02
			92.6260	0	1079610	5	7	1.27E+11	2.29E−01
Al VI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3D^o$	*88.265*	*1336*	*1134290*	9	15	1.60E+11	3.11E−01
			88.462	3829	1134260	1	3	8.81E+10	3.10E−01
			88.376	2732	1134260	3	3	6.63E+10	7.76E−02
			88.369	2732	1134350	3	5	1.19E+11	2.33E−01
			88.163	0	1134260	5	7	1.60E+11	2.61E−01
			88.163	0	1134260	5	3	4.45E+09	3.11E−03
			88.156	0	1134350	5	5	4.01E+10	4.67E−02
Al VI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3P^o$	*87.7233*	*1336*	*1141280*	9	9	2.93E+11	3.38E−01
			87.8819	3829	1141720	1	3	9.70E+10	3.37E−01
			87.8620	2732	1140880	3	5	7.31E+10	1.41E−01
			87.7972	2732	1141720	3	3	7.29E+10	8.42E−02
			87.7757	2732	1142000	3	1	2.93E+11	1.13E−01
			87.6516	0	1140880	5	5	2.20E+11	2.53E−01
			87.5871	0	1141720	5	3	1.23E+11	8.46E−02
Al VI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3S^o$	*87.4337*	*1336*	1145060	9	3	2.98E+11	1.14E−01
			87.6247	3829	1145060	1	3	3.30E+10	1.14E−01
			87.5405	2732	1145060	3	3	9.92E+10	1.14E−01
			87.3317	0	1145060	5	3	1.66E+11	1.14E−01
Al VI	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3P^o$	*85.9401*	*1336*	*1164940*	9	9	4.61E+10	5.10E−02
			86.1489	3829	1164610	1	3	1.52E+10	5.09E−02
			86.0942	2732	1164250	3	1	4.59E+10	1.70E−02
			86.0676	2732	1164610	3	3	1.15E+10	1.28E−02
			86.0187	2732	1165270	3	5	1.15E+10	2.13E−02
			85.8657	0	1164610	5	3	1.93E+10	1.28E−02
			85.8170	0	1165270	5	5	3.47E+10	3.83E−02
Al VI	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3D^o$	*85.6330*	*1336*	*1169110*	9	15	1.36E+11	2.49E−01
			85.8059	3829	1169250	1	3	7.49E+10	2.48E−01
			85.7664	2732	1168690	3	5	1.01E+11	1.86E−01
			85.7252	2732	1169250	3	3	5.64E+10	6.21E−02
			85.5659	0	1168690	5	5	3.40E+10	3.73E−02
			85.5249	0	1169250	5	3	3.78E+09	2.49E−03
			85.5176	0	1169350	5	7	1.36E+11	2.09E−01
Al VI	$2s^2 2p^4 - 2p^3(^4S^o)4s$	$^3P - ^3S^o$	*82.1717*	*1336*	1218300	9	3	3.56E+10	1.20E−02
			82.3404	3829	1218300	1	3	3.94E+09	1.20E−02
			82.2661	2732	1218300	3	3	1.18E+10	1.20E−02
			82.0816	0	1218300	5	3	1.98E+10	1.20E−02
Al VI	$2s^2 2p^4 - 2p^3(^2D^o)4s$	$^3P - ^3D^o$	*78.5414*	*1336*	*1274550*	9	15	5.87E+10	9.05E−02
			78.6955	3829	1274550	1	3	3.24E+10	9.03E−02
			78.6276	2732	1274550	3	5	4.38E+10	6.77E−02
			78.6276	2732	1274550	3	3	2.44E+10	2.26E−02
			78.4591	0	1274550	5	7	5.89E+10	7.61E−02
			78.4591	0	1274550	5	5	1.47E+10	1.36E−02
			78.4591	0	1274550	5	3	1.64E+09	9.06E−04
Al VI	$2s^2 2p^4 - 2p^3(^4S^o)4d$	$^3P - ^3D^o$	*78.0260*	*1336*	*1282960*	9	15	2.42E+10	3.68E−02
			78.1781	3829	1282960	1	3	1.34E+10	3.67E−02
			78.1111	2732	1282960	3	5	1.81E+10	2.76E−02
			78.1111	2732	1282960	3	3	1.00E+10	9.17E−03
			77.9448	0	1282960	5	7	2.42E+10	3.09E−02
			77.9448	0	1282960	5	5	6.06E+09	5.52E−03
			77.9448	0	1282960	5	3	6.73E+08	3.68E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al VI	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)4s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*76.4799*	*1336*	*1308870*	9	9	1.51E+10	1.32E−02
			76.5616?	2732	1308870?	3	5	3.76E+09	5.50E−03
			76.4018?	0	1308870?	5	5	1.13E+10	9.92E−03
				2732		3	3	3.77E+09	3.31E−03
				0		5	3	6.29E+09	3.31E−03
				2732		3	1	1.51E+10	4.41E−03
				3829		1	3	5.02E+09	1.32E−02
Al VI	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)4d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*74.7326*	*1336*	*1339440*	9	15	4.39E+10	6.12E−02
			74.8721	3829	1339440	1	3	2.42E+10	6.11E−02
			74.8107	2732	1339440	3	5	3.28E+10	4.59E−02
			74.8107	2732	1339440	3	3	1.82E+10	1.53E−02
			74.6581	0	1339440	5	7	4.40E+10	5.15E−02
			74.6581	0	1339440	5	5	1.10E+10	9.19E−03
			74.6581	0	1339440	5	3	1.22E+09	6.13E−04
Al VI	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)4d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*74.5165*	*1336*	*1343320*	9	9	9.98E+10	8.31E−02
			74.5941	2732	1343320	3	5	2.49E+10	3.46E−02
			74.4424	0	1343320	5	5	7.51E+10	6.24E−02
				2732		3	3	2.50E+10	2.08E−02
				0		5	3	4.16E+10	2.08E−02
				2732		3	1	9.98E+10	2.77E−02
				3829		1	3	3.33E+10	8.31E−02
Al VII	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*355.05*	0	*281650*	4	12	3.33E+09	1.89E−01
			356.89	0	280200	4	6	3.28E+09	9.39E−02
			353.77	0	282670	4	4	3.36E+09	6.31E−02
			352.15	0	283970	4	2	3.41E+09	3.17E−02
Al VII	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*86.9899*	0	*1149560*	4	12	3.58E+10	1.22E−01
			87.1688	0	1147200	4	2	3.58E+10	2.04E−02
			87.0587	0	1148650	4	4	3.60E+10	4.09E−02
			86.8847	0	1150950	4	6	3.62E+10	6.14E−02
Al VII	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*75.3302*	0	*1327490*	4	12	5.64E+11	1.44E+00
			75.3636	0	1326900	4	6	5.63E+11	7.19E−01
			75.3074	0	1327890	4	4	5.65E+11	4.80E−01
			75.2757	0	1328450	4	2	5.65E+11	2.40E−01
Al VII	$2s^2 2p^3 - 2p^3(^5\mathrm{S}^o)3p$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*72.2775*	0	*1383556*	4	12	6.68E+10	1.57E−01
			72.2784	0	1383540	4	6	6.69E+10	7.86E−02
			72.2763	0	1383580	4	4	6.70E+10	5.25E−02
				0		4	2	6.66E+10	2.61E−02
Al VII	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*64.809*	0	*1543000*	4	12	1.73E+10	3.27E−02
			64.809?	0	1543000?	4	6	1.74E+10	1.64E−02
				0		4	4	1.73E+10	1.09E−02
				0		4	2	1.73E+10	5.46E−03
Al VII	$2s^2 2p^3 - 2p^2(^3\mathrm{P})5s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*58.751*	0	*1702100*	4	12	1.12E+10	1.74E−02
			58.751?	0	1702100?	4	6	1.12E+10	8.68E−03
				0		4	4	1.12E+10	5.79E−03
				0		4	2	1.12E+10	2.90E−03
Al VIII	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*385.78*	*3030*	*262240*	9	15	1.99E+09	7.40E−02
			387.96	4420	262180	5	7	1.96E+09	6.18E−02
			387.82	4420	262270	5	5	4.88E+08	1.10E−02
			387.73	4420	262330	5	3	5.45E+07	7.37E−04
			383.79	1710	262270	3	5	1.52E+09	5.58E−02
			383.70	1710	262330	3	3	8.43E+08	1.86E−02
			381.20	0	262330	1	3	1.15E+09	7.49E−02
Al VIII	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*326.71*	*3030*	*309110*	9	9	5.27E+09	8.43E−02
			328.20	4420	309110	5	5	3.90E+09	6.30E−02
			328.20	4420	309110	5	3	2.17E+09	2.10E−02
			325.31	1710	309110	3	3	1.34E+09	2.12E−02
			325.31	1710	309110	3	5	1.33E+09	3.53E−02
			325.31	1710	309110	3	1	5.33E+09	2.82E−02
			323.51	0	309110	1	3	1.81E+09	8.51E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al VIII	$2s^2 2p^2 - 2s 2p^3$	^{3}P–^{3}S^o	*249.27*	*3030*	404200	9	3	3.28E+10	1.02E−01
			250.14	4420	404200	5	3	1.81E+10	1.02E−01
			248.45	1710	404200	3	3	1.10E+10	1.02E−01
			247.40	0	404200	1	3	3.74E+09	1.03E−01
Al VIII	$2s^2 2p^2 - 2s^2 2p 3s$	^{3}P–^{3}P^o	*75.7976*	*3030*	*1322330*	9	9	7.91E+10	6.81E−02
			75.9867	4420	1320440	5	3	3.27E+10	1.70E−02
			75.8938?	1710	1319340?	3	1	7.89E+10	2.27E−02
			75.8305	1710	1320440	3	3	1.97E+10	1.70E−02
			75.7782	4420	1324060	5	5	5.94E+10	5.11E−02
			75.7323	0	1320440	1	3	2.64E+10	6.82E−02
			75.6229	1710	1324060	3	5	1.99E+10	2.85E−02
Al VIII	$2s^2 2p^2 - 2s^2 2p 3d$	^{3}P–^{3}D^o	*67.4419*	*3030*	*1485780*	9	15	7.14E+11	8.11E−01
			67.5607	4420	1484570	5	3	1.97E+10	8.10E−03
			67.5302	4420	1485240	5	5	1.78E+11	1.22E−01
			67.4641	4420	1486690	5	7	7.13E+11	6.81E−01
			67.4372	1710	1484570	3	3	2.98E+11	2.03E−01
			67.4068	1710	1485240	3	5	5.36E+11	6.09E−01
			67.3596	0	1484570	1	3	3.98E+11	8.12E−01
Al VIII	$2s^2 2p^2 - 2s^2 2p 3d$	^{3}P–^{3}P^o	*67.2024*	*3030*	*1491070*	9	9	3.99E+11	2.70E−01
			67.2880	4420	1490570	5	5	2.99E+11	2.03E−01
			67.2436	4420	1491550	5	3	1.66E+11	6.75E−02
			67.1655	1710	1490570	3	5	1.00E+11	1.13E−01
			67.1213	1710	1491550	3	3	1.00E+11	6.76E−02
			67.0961	1710	1492110	3	1	4.01E+11	9.02E−02
			67.0443	0	1491550	1	3	1.34E+11	2.71E−01
Al VIII	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 3p$	^{3}P–^{3}S^o	*65.4354*	*3030*	1531250	9	3	1.69E+11	3.61E−02
			65.4952	4420	1531250	5	3	9.33E+10	3.60E−02
			65.3791	1710	1531250	3	3	5.63E+10	3.61E−02
			65.3061	0	1531250	1	3	1.88E+10	3.61E−02
Al VIII	$2s^2 2p^2 - 2s 2p^2 (^4\mathrm{P}) 3p$	^{3}P–^{3}D^o	*63.9945*	*3030*	*1565660*	9	15	1.42E+11	1.45E−01
			64.1141?	4420	1564140?	5	3	3.89E+09	1.44E−03
			64.0808?	4420	1564950?	5	5	3.54E+10	2.18E−02
			64.0041?	4420	1566820?	5	7	1.42E+11	1.22E−01
			64.0029?	1710	1564140?	3	3	5.91E+10	3.63E−02
			63.9697?	1710	1564950?	3	5	1.07E+11	1.09E−01
			63.9329?	0	1564140?	1	3	7.89E+10	1.45E−01
Al VIII	$2s^2 2p^2 - 2s^2 2p 4d$	^{3}P–^{3}D^o	*54.2330*	*3030*	*1846920*	9	15	2.49E+11	1.83E−01
			54.2968?	4420	1846150?	5	5	6.22E+10	2.75E−02
			54.2579?	4420	1847470?	5	7	2.49E+11	1.54E−01
			54.2170?	1710	1846150?	3	5	1.88E+11	1.38E−01
				0		1	3	1.38E+11	1.83E−01
				1710		3	3	1.04E+11	4.58E−02
				4420		5	3	6.92E+09	1.83E−03
Al IX	$2s^2 2p - 2s 2p^2$	^{2}P^o–^{2}D	*389.89*	*3260*	*259742*	6	10	1.84E+09	6.99E−02
			392.40	4890	259730	4	6	1.80E+09	6.25E−02
			392.36	4890	259760	4	4	3.01E+08	6.94E−03
			384.97	0	259760	2	4	1.59E+09	7.08E−02
Al IX	$2s^2 2p - 2s 2p^2$	^{2}P^o–^{2}S	*303.54*	*3260*	332710	6	2	8.10E+09	3.73E−02
			305.05	4890	332710	4	2	5.33E+09	3.72E−02
			300.56	0	332710	2	2	2.78E+09	3.77E−02
Al IX	$2s^2 2p - 2s 2p^2$	^{2}P^o–^{2}P	*283.50*	*3260*	*355990*	6	6	1.54E+10	1.86E−01
			286.38	4890	354080	4	2	4.99E+09	3.07E−02
			284.04	4890	356950	4	4	1.28E+10	1.55E−01
			282.42	0	354080	2	2	1.04E+10	1.24E−01
			280.15	0	356950	2	4	2.67E+09	6.28E−02
Al IX	$2s^2 2p - 2s^2 3s$	^{2}P^o–^{2}S	*66.7664*	*3260*	1501020	6	2	1.12E+11	2.50E−02
			66.8391	4890	1501020	4	2	7.47E+10	2.50E−02
			66.6214	0	1501020	2	2	3.77E+10	2.51E−02

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al IX	$2s^2 2p - 2s^2 3d$	^{2}P^o – ^{2}D	*61.0119*	*3260*	*1642280*	6	10	6.64E+11	6.18E−01
			61.0780	4890	1642140	4	4	1.10E+11	6.17E−02
			61.0691	4890	1642380	4	6	6.62E+11	5.55E−01
			60.8961	0	1642140	2	4	5.57E+11	6.19E−01
Al IX	$2s^2 2p - 2s2p(^3\text{P}^o)3p$	^{2}P^o – ^{2}P	*58.1861*	*3260*	*1721880*	6	6	2.48E+11	1.26E−01
			58.2771	4890	1720830	4	2	8.25E+10	2.10E−02
			58.2235	4890	1722410	4	4	2.07E+11	1.05E−01
			58.1115	0	1720830	2	2	1.67E+11	8.45E−02
			58.0582	0	1722410	2	4	4.19E+10	4.23E−02
Al IX	$2s^2 2p - 2s2p(^3\text{P}^o)3p$	^{2}P^o – ^{2}D	*56.9372*	*3260*	*1759580*	6	10	2.75E+11	2.23E−01
			57.0578	4890	1757500	4	4	4.55E+10	2.22E−02
			56.9450	4890	1760970	4	6	2.76E+11	2.01E−01
			56.8990	0	1757500	2	4	2.30E+11	2.23E−01
Al IX	$2s^2 2p - 2s2p(^3\text{P}^o)3p$	^{2}P^o – ^{2}S	*56.2525*	*3260*	1780960	6	2	2.78E+11	4.39E−02
			56.3041	4890	1780960	4	2	1.85E+11	4.39E−02
			56.1495	0	1780960	2	2	9.31E+10	4.40E−02
Al IX	$2s^2 2p - 2s2p(^1\text{P}^o)3p$	^{2}P^o – ^{2}P	*53.3394*	*3260*	*1878050*	6	6	8.93E+10	3.81E−02
			53.4060	4890	1877340	4	2	2.97E+10	6.34E−03
			53.3757	4890	1878400	4	4	7.45E+10	3.18E−02
			53.2669	0	1877340	2	2	5.97E+10	2.54E−02
			53.2368	0	1878400	2	4	1.51E+10	1.28E−02
Al IX	$2s^2 2p - 2s2p(^1\text{P}^o)3p$	^{2}P^o – ^{2}S	*53.055*	*3260*	1888100	6	2	6.08E+10	8.55E−03
			53.101?	4890	1888100?	4	2	4.05E+10	8.55E−03
			52.963?	0	1888100?	2	2	2.04E+10	8.57E−03
Al IX	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*47.8230*	*3260*	*2094300*	6	10	2.41E+11	1.38E−01
			47.8668	4890	2094020	4	4	4.02E+10	1.38E−02
			47.8560	4890	2094490	4	6	2.41E+11	1.24E−01
			47.7550	0	2094020	2	4	2.02E+11	1.38E−01
Al IX	$2s^2 2p - 2s2p(^3\text{P}^o)4p$	^{2}P^o – ^{2}D	*44.7338*	*3260*	*2238700*	6	10	1.16E+11	5.82E−02
			44.8019?	4890	2236940?	4	4	1.93E+10	5.81E−03
			44.7429?	4890	2239880?	4	6	1.16E+11	5.24E−02
			44.7039?	0	2236940?	2	4	9.71E+10	5.82E−02
Al IX	$2s^2 2p - 2s^2 5d$	^{2}P^o – ^{2}D	*43.5182*	*3260*	*2301150*	6	10	1.05E+11	4.96E−02
			43.5491	4890	2301150	4	6	1.05E+11	4.47E−02
				0		2	4	8.72E+10	4.95E−02
				4890		4	4	1.74E+10	4.95E−03
Al IX	$2s^2 2p - 2s^2 6d$	^{2}P^o – ^{2}D	*41.5150*	*3260*	*2412030*	6	10	5.39E+10	2.32E−02
			41.5431	4890	2412030	4	6	5.38E+10	2.09E−02
				0		2	4	4.49E+10	2.32E−02
				4890		4	4	8.98E+09	2.32E−03
Al X	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	332.79	0	300490	1	3	5.76E+09	2.87E−01
Al X	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	51.9791	0	1923850	1	3	4.65E+11	5.65E−01
Al X	$2s^2 - 2p3s$	^{1}S – ^{1}P^o	47.8041?	0	2091870?	1	3	1.67E+10	1.72E−02
Al XI	$1s^2 2s - 1s^2 2p$	^{2}S – ^{2}P^o	*555.931*	0	*179878*	2	6	8.27E+08	1.15E−01
			568.120	0	176019	2	2	7.75E+08	3.75E−02
			550.031	0	181808	2	4	8.52E+08	7.73E−02
Al XI	$1s^2 2s - 1s^2 3p$	^{2}S – ^{2}P^o	*48.3107*	0	*2069940*	2	6	3.19E+11	3.35E−01
			48.3379	0	2068770	2	2	3.17E+11	1.11E−01
			48.2970	0	2070520	2	4	3.20E+11	2.24E−01
Al XI	$1s^2 2s - 1s^2 4p$	^{2}S – ^{2}P^o	*36.6751*	0	*2726650*	2	6	1.44E+11	8.72E−02
			36.6822	0	2726120	2	2	1.44E+11	2.91E−02
			36.6715	0	2726910	2	4	1.44E+11	5.82E−02
Al XI	$1s^2 2s - 1s^2 5p$	^{2}S – ^{2}P^o	*33.007*	0	*3029700*	2	6	7.47E+10	3.66E−02
			33.007	0	3029700	2	4	7.47E+10	2.44E−02
			33.007	0	3029700	2	2	7.47E+10	1.22E−02

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Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Al XI	$1s^2 2s - 1s^2 6p$	$^2S - ^2P^o$	*31.313*	0	*3193600*	2	6	4.33E+10	1.91E−02
			31.313	0	3193600	2	4	4.32E+10	1.27E−02
			31.313	0	3193600	2	2	4.35E+10	6.39E−03
Al XI	$1s^2 2s - 1s^2 7p$	$^2S - ^2P^o$	*30.376*	0	*3292100*	2	6	2.75E+10	1.14E−02
			30.376	0	3292100	2	4	2.74E+10	7.59E−03
			30.376	0	3292100	2	2	2.74E+10	3.79E−03
Al XI	$1s^2 2s - 1s^2 8p$	$^2S - ^2P^o$	*29.793*	0	*3356500*	2	6	1.83E+10	7.32E−03
			29.793	0	3356500	2	4	1.83E+10	4.88E−03
			29.793	0	3356500	2	2	1.83E+10	2.44E−03
Al XI	$1s^2 2s - 1s^2 9p$	$^2S - ^2P^o$	*29.416*	0	*3399500*	2	6	1.29E+10	5.01E−03
			29.416	0	3399500	2	4	1.29E+10	3.34E−03
			29.416	0	3399500	2	2	1.29E+10	1.67E−03
Al XII	$1s^2 - 1s2p$	$^1S - ^1P^o$	7.7573	0	[12891081]	1	3	2.77E+13	7.50E−01
Al XII	$1s^2 - 1s3p$	$^1S - ^1P^o$	6.6348	0	[15072141]	1	3	7.68E+12	1.52E−01
Al XII	$1s^2 - 1s4p$	$^1S - ^1P^o$	6.3139	0	[15838068]	1	3	3.16E+12	5.67E−02
Al XII	$1s^2 - 1s5p$	$^1S - ^1P^o$	6.1755	0	[16192975]	1	3	1.60E+12	2.75E−02
Al XII	$1s^2 - 1s6p$	$^1S - ^1P^o$	6.1028	0	[16385868]	1	3	9.19E+11	1.54E−02
Al XII	$1s^2 - 1s7p$	$^1S - ^1P^o$	6.0598	0	[16502210]	1	3	5.77E+11	9.53E−03
Al XII	$1s^2 - 1s8p$	$^1S - ^1P^o$	6.0322	0	[16577734]	1	3	3.86E+11	6.31E−03
Al XII	$1s^2 - 1s9p$	$^1S - ^1P^o$	6.0134	0	[16629519]	1	3	2.71E+11	4.40E−03
Al XII	$1s^2 - 1s10p$	$^1S - ^1P^o$	6.0000	0	[16666564]	1	3	1.98E+11	3.20E−03
Al XIII	$1s - 2p$	$^2S - ^2P^o$	*7.1727*	0	*13941713*	2	6	1.80E+13	4.16E−01
			7.1763	0	[13934704]	2	2	1.80E+13	1.39E−01
			7.1709	0	[13945218]	2	4	1.80E+13	2.77E−01
Al XIII	$1s - 3p$	$^2S - ^2P^o$	*6.0529*	0	*16520960*	2	6	4.79E+12	7.90E−02
			6.0537	0	[16518883]	2	2	4.79E+12	2.63E−02
			6.0525	0	[16521999]	2	4	4.80E+12	5.27E−02
Al XIII	$1s - 4p$	$^2S - ^2P^o$	*5.7393*	0	*17423794*	2	6	1.96E+12	2.90E−02
			5.7396	0	[17422918]	2	2	1.96E+12	9.67E−03
			5.7391	0	[17424232]	2	4	1.95E+12	1.93E−02
Al XIII	$1s - 5p$	$^2S - ^2P^o$	*5.6049*	0	*17841623*	2	6	9.84E+11	1.39E−02
			5.6050	0	[17841174]	2	2	9.87E+11	4.65E−03
			5.6048	0	[17841847]	2	4	9.87E+11	9.30E−03
Al XIII	$1s - 6p$	$^2S - ^2P^o$	*5.5345*	0	*18068558*	2	6	5.66E+11	7.80E−03
			5.5346	0	[18068299]	2	2	5.66E+11	2.60E−03
			5.5344	0	[18068688]	2	4	5.66E+11	5.20E−03
Al XIII	$1s - 7p$	$^2S - ^2P^o$	*5.4929*	0	*18205376*	2	6	3.55E+11	4.82E−03
			5.4929	0	[18205458]	2	4	3.55E+11	3.21E−03
			5.4929	0	[18205213]	2	2	3.54E+11	1.60E−03
Al XIII	$1s - 8p$	$^2S - ^2P^o$	*5.4662*	0	*18294167*	2	6	2.37E+11	3.19E−03
			5.4663	0	[18294057]	2	2	2.37E+11	1.06E−03
			5.4662	0	[18294221]	2	4	2.37E+11	2.12E−03
Al XIII	$1s - 9p$	$^2S - ^2P^o$	*5.4481*	0	*18355036*	2	6	1.66E+11	2.22E−03
			5.4481	0	[18355074]	2	4	1.66E+11	1.48E−03
			5.4481	0	[18354959]	2	2	1.66E+11	7.38E−04
Al XIII	$1s - 10p$	$^2S - ^2P^o$	*5.4352*	0	*18398572*	2	6	1.20E+11	1.60E−03
			5.4352	0	[18398600]	2	4	1.21E+11	1.07E−03
			5.4352	0	[18398516]	2	2	1.21E+11	5.35E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si I	$3s^2 3p^2 - 3s^2 3p4s$	$^3P - ^3P^o$	*2518.2422*	*149.681*	*39859.920*	9	9	2.48E+08	2.36E−01
			2529.2682	223.157	39760.285	5	3	1.02E+08	5.86E−02
			2524.8669	77.115	39683.163	3	1	2.46E+08	7.83E−02
			2519.9600	77.115	39760.285	3	3	6.18E+07	5.88E−02
			2516.8696	223.157	39955.053	5	5	1.86E+08	1.77E−01
			2515.0725	0	39760.285	1	3	8.29E+07	2.36E−01
			2507.6522	77.115	39955.053	3	5	6.27E+07	9.85E−02
Si I	$3s^2 3p^2 - 3s3p^3$	$^3P - ^3D^o$	*2214.6614*	*149.681*	*45303.310*	9	15	4.24E+07	5.20E−02
			2219.6065	223.157	45276.188	5	3	1.17E+06	5.19E−04
			2218.7476	223.157	45293.629	5	5	1.06E+07	7.79E−03
			2217.3593	223.157	45321.848	5	7	4.22E+07	4.36E−02
			2212.4348	77.115	45276.188	3	3	1.77E+07	1.30E−02
			2211.5814	77.115	45293.629	3	5	3.19E+07	3.90E−02
			2208.6665	0	45276.188	1	3	2.38E+07	5.22E−02
Si I	$3s^2 3p^2 - 3s^2 3p3d$	$^3P - ^3P^o$	*1984.7672*	*149.681*	*50533.425*	9	9	9.09E+07	5.37E−02
			1988.9937	223.157	50499.838	5	5	6.78E+07	4.02E−02
			1986.3640	223.157	50566.397	5	3	3.78E+07	1.34E−02
			1983.2328	77.115	50499.838	3	5	2.28E+07	2.24E−02
			1980.6184	77.115	50566.397	3	3	2.28E+07	1.34E−02
			1979.205	77.115	50602.44	3	1	9.19E+07	1.80E−02
			1977.5979	0	50566.397	1	3	3.06E+07	5.39E−02
Si I	$3s^2 3p^2 - 3s^2 3p3d$	$^3P - ^3D^o$	*1849.2513*	*149.681*	*54225.621*	9	15	3.16E+08	2.70E−01
			1853.1522	223.157	54185.264	5	3	8.74E+06	2.70E−03
			1852.4716	223.157	54205.090	5	5	7.87E+07	4.05E−02
			1850.6720	223.157	54257.582	5	7	3.16E+08	2.27E−01
			1848.1505	77.115	54185.264	3	3	1.32E+08	6.76E−02
			1847.4735	77.115	54205.090	3	5	2.38E+08	2.03E−01
			1845.5202	0	54185.264	1	3	1.77E+08	2.71E−01
Si I	$3s^2 3p^2 - 3s^2 3p5s$	$^3P - ^3P^o$	*1842.4484*	*149.681*	*54425.286*	9	9	5.72E+07	2.91E−02
			1848.7480	223.157	54313.818	5	3	2.36E+07	7.25E−03
			1846.1116	77.115	54245.020	3	1	5.68E+07	9.67E−03
			1843.7699	77.115	54313.818	3	3	1.43E+07	7.27E−03
			1841.4489	223.157	54528.220	5	5	4.29E+07	2.18E−02
			1841.1521	0	54313.818	1	3	1.91E+07	2.91E−02
			1836.5100	77.115	54528.220	3	5	1.45E+07	1.22E−02
Si I	$3s^2 3p^2 - 3s^2 3p4d$	$^3P - ^3P^o$	*1768.376*	*149.681*	*56698.74*	9	9	2.58E+07	1.21E−02
			1770.9225	223.157	56690.903	5	5	1.93E+07	9.06E−03
			1770.629	223.157	56700.25	5	3	1.07E+07	3.02E−03
			1766.3542	77.115	56690.903	3	5	6.48E+06	5.05E−03
			1766.063	77.115	56700.25	3	3	6.48E+06	3.03E−03
			1765.030	77.115	56733.38	3	1	2.59E+07	4.04E−03
			1763.661	0	56700.25	1	3	8.65E+06	1.21E−02
Si I	$3s^2 3p^2 - 3s^2 3p4d$	$^3P - ^3D^o$	*1697.003*	*149.681*	*59077.11*	9	15	2.17E+08	1.56E−01
			1700.419	223.157	59032.19	5	5	5.35E+07	2.32E−02
			1699.7162	223.157	59056.508	5	3	5.96E+06	1.55E−03
			1697.941	223.157	59118.03	5	7	2.16E+08	1.31E−01
			1696.207	77.115	59032.19	3	5	1.63E+08	1.17E−01
			1695.5074	77.115	59056.508	3	3	9.00E+07	3.88E−02
			1693.2935	0	59056.508	1	3	1.21E+08	1.56E−01
Si I	$3s^2 3p^2 - 3s^2 3p6s$	$^3P - ^3P^o$	*1687.8381*	*149.681*	*59397.070*	9	9	2.67E+07	1.14E−02
			1693.4681	223.157	59273.575	5	3	1.10E+07	2.84E−03
			1690.789	77.115	59221.11	3	1	2.65E+07	3.79E−03
			1689.2902	77.115	59273.575	3	3	6.66E+06	2.85E−03
			1687.0924	0	59273.575	1	3	8.90E+06	1.14E−02
			1686.8185	223.157	59506.359	5	5	2.00E+07	8.55E−03
			1682.6733	77.115	59506.359	3	5	6.74E+06	4.77E−03
Si I	$3s^2 3p^2 - 3s^2 3p5d$	$^3P - ^3D^o$	*1629.455*	*149.681*	*61519.89*	9	15	1.28E+08	8.49E−02
			1633.328	223.157	61447.86	5	5	3.18E+07	1.27E−02
			1631.624	223.157	61511.77	5	3	3.54E+06	8.48E−04
			1629.9478	223.157	61574.814	5	7	1.28E+08	7.13E−02
			1629.441	77.115	61447.86	3	5	9.59E+07	6.36E−02
			1627.746	77.115	61511.77	3	3	5.36E+07	2.13E−02
			1625.705	0	61511.77	1	3	7.16E+07	8.51E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si I	$3s^2 3p^2 - 3s^2 3p5d$*	^{3}P$-^3$P^o	*1624.270*	*149.681*	*61715.79*	9	9	8.98E+07	3.55E−02
			1629.400	223.157	61595.43	5	3	3.70E+07	8.84E−03
			1627.050	77.115	61538.05	3	1	8.92E+07	1.18E−02
			1625.532	77.115	61595.43	3	3	2.24E+07	8.86E−03
			1623.497	0	61595.43	1	3	2.99E+07	3.55E−02
			1623.366	223.157	61823.55	5	5	6.73E+07	2.66E−02
			1619.527	77.115	61823.55	3	5	2.26E+07	1.48E−02
Si I	$3s^2 3p^2 - 3s^2 3p7s$*	^{3}P$-^3$P^o	*1619.779*	*149.681*	*61886.48*	9	9	1.87E+07	7.35E−03
			1622.882	223.157	61841.94	5	5	1.39E+07	5.50E−03
			1620.405	223.157	61936.13	5	3	7.79E+06	1.84E−03
			1619.044	77.115	61841.94	3	5	4.69E+06	3.07E−03
			1616.579	77.115	61936.13	3	3	4.70E+06	1.84E−03
			1615.949	77.115	61960.26	3	1	1.88E+07	2.45E−03
			1614.566	0	61936.13	1	3	6.29E+06	7.37E−03
Si I	$3s^2 3p^2 - 3s^2 3p6d$	^{3}P$-^3$D^o	*1594.116*	*149.681*	*62880.36*	9	15	7.91E+07	5.02E−02
			1598.674	223.157	62774.99	5	5	1.96E+07	7.51E−03
			1594.950	77.115	62774.99	3	5	5.93E+07	3.77E−02
			1594.829	223.157	62925.80	5	3	2.19E+06	5.01E−04
			1594.566	223.157	62936.14	5	7	7.91E+07	4.22E−02
			1591.123	77.115	62925.80	3	3	3.32E+07	1.26E−02
			1589.173	0	62925.80	1	3	4.43E+07	5.03E−02
Si I	$3s^2 3p^2 - 3s^2 3p6d$:*	^{3}P$-^3$P^o	*1591.888*	*149.681*	*62968.16*	9	9	7.82E+07	2.97E−02
			1597.697	223.157	62813.26	5	3	3.23E+07	7.41E−03
			1594.145	77.115	62806.65	3	1	7.80E+07	9.91E−03
			1593.977	77.115	62813.26	3	3	1.95E+07	7.43E−03
			1592.021	0	62813.26	1	3	2.61E+07	2.97E−02
			1590.577	223.157	63093.41	5	5	5.88E+07	2.23E−02
			1586.891	77.115	63093.41	3	5	1.97E+07	1.24E−02
Si I	$3s^2 3p^2 - 3s^2 3p8s$*	^{3}P$-^3$P^o	*1589.627*	*149.681*	*63057.50*	9	9	1.90E+07	7.18E−03
			1592.426	223.157	63020.42	5	5	1.42E+07	5.38E−03
			1590.477	223.157	63097.36	5	3	7.87E+06	1.79E−03
			1588.731	77.115	63020.42	3	5	4.74E+06	2.99E−03
			1586.792	77.115	63097.36	3	3	4.77E+06	1.80E−03
			1586.137	77.115	63123.36	3	1	1.91E+07	2.40E−03
			1584.852	0	63097.36	1	3	6.38E+06	7.21E−03
Si I	$3s^2 3p^2 - 3s^2 3p7d$	^{3}P$-^3$D^o	*1573.639*	*149.681*	*63696.64*	9	15	5.12E+07	3.17E−02
			1578.477	223.157	63575.35	5	5	1.27E+07	4.74E−03
			1574.847	77.115	63575.35	3	5	3.82E+07	2.37E−02
			1574.128	223.157	63750.39	5	3	1.42E+06	3.17E−04
			1573.884	223.157	63760.24	5	7	5.12E+07	2.66E−02
			1570.518	77.115	63750.39	3	3	2.15E+07	7.94E−03
			1568.618	0	63750.39	1	3	2.87E+07	3.18E−02
Si I	$3s^2 3p^2 - 3s^2 3p7d$:	^{3}P$-^3$P^o	*1569.865*	*149.681*	*63849.44*	9	9	5.01E+07	1.85E−02
			1571.796	223.157	63844.65	5	3	2.08E+07	4.62E−03
			1568.196	77.115	63844.65	3	3	1.26E+07	4.63E−03
			1567.725?	77.115	63863.80?	3	1	5.03E+07	6.18E−03
			1566.302	0	63844.65	1	3	1.68E+07	1.85E−02
				223.157		5	5	3.73E+07	1.38E−02
				77.115		3	5	1.24E+07	7.64E−03
Si I	$3s^2 3p^2 - 3s3p^3$	^{3}P$-^3$S^o	*1257.64*	*149.681*	79664.0	9	3	3.66E+09	2.89E−01
			1258.80	223.157	79664.0	5	3	2.03E+09	2.89E−01
			1256.49	77.115	79664.0	3	3	1.22E+09	2.89E−01
			1255.27	0	79664.0	1	3	4.08E+08	2.89E−01
Si II	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$D	*1813.981*	*191.49*	*55318.85*	6	10	3.10E+06	2.55E−03
			1817.451	287.24	55309.35	4	4	5.15E+05	2.55E−04
			1816.928	287.24	55325.18	4	6	3.08E+06	2.29E−03
			1808.013	0	55309.35	2	4	2.61E+06	2.56E−03
Si II	$3s^2 3p - 3s^2 4s$	^{2}P$^o-^2$S	*1531.183*	*191.49*	65500.47	6	2	1.12E+09	1.31E−01
			1533.431	287.24	65500.47	4	2	7.43E+08	1.31E−01
			1526.707	0	65500.47	2	2	3.78E+08	1.32E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si II	$3s^2 3p - 3s 3p^2$	^{2}P^o – ^{2}S	*1307.636*	*191.49*	76665.35	6	2	1.02E+09	8.68E−02
			1309.276	287.24	76665.35	4	2	6.75E+08	8.67E−02
			1304.370	0	76665.35	2	2	3.41E+08	8.71E−02
Si II	$3s^2 3p - 3s^2 3d$	^{2}P^o – ^{2}D	*1263.313*	*191.49*	*79348.41*	6	10	2.96E+09	1.18E+00
			1265.002	287.24	79338.50	4	4	4.92E+08	1.18E−01
			1264.738	287.24	79355.02	4	6	2.95E+09	1.06E+00
			1260.422	0	79338.50	2	4	2.48E+09	1.18E+00
Si II	$3s^2 3p - 3s 3p^2$	^{2}P^o – ^{2}P	*1194.096*	*191.49*	*83936.82*	6	6	4.10E+09	8.76E−01
			1197.394	287.24	83801.95	4	2	1.36E+09	1.46E−01
			1194.500	287.24	84004.26	4	4	3.41E+09	7.29E−01
			1193.290	0	83801.95	2	2	2.74E+09	5.84E−01
			1190.416	0	84004.26	2	4	6.90E+08	2.93E−01
Si II	$3s^2 3p - 3s^2 5s$	^{2}P^o – ^{2}S	*1022.6978*	*191.49*	97972.09	6	2	2.89E+08	1.51E−02
			1023.7002	287.24	97972.09	4	2	1.92E+08	1.51E−02
			1020.6989	0	97972.09	2	2	9.67E+07	1.51E−02
Si II	$3s^2 3p - 3s^2 4d$	^{2}P^o – ^{2}D	*991.7453*	*191.49*	*101023.83*	6	10	6.92E+08	1.70E−01
			992.6956	287.24	101023.05	4	4	1.15E+08	1.70E−02
			992.6828	287.24	101024.35	4	6	6.90E+08	1.53E−01
			989.8731	0	101023.05	2	4	5.82E+08	1.71E−01
Si II	$3s^2 3p - 3s^2 6s$	^{2}P^o – ^{2}S	*900.9580*	*191.49*	111184.46	6	2	1.40E+08	5.69E−03
			901.7359	287.24	111184.46	4	2	9.33E+07	5.69E−03
			899.4063	0	111184.46	2	2	4.70E+07	5.70E−03
Si II	$3s^2 3p - 3s^2 5d$	^{2}P^o – ^{2}D	*891.2405*	*191.49*	*112394.66*	6	10	2.18E+08	4.33E−02
			892.0024	287.24	112394.56	4	4	3.63E+07	4.33E−03
			892.0011	287.24	112394.72	4	6	2.17E+08	3.89E−02
			889.7228	0	112394.56	2	4	1.83E+08	4.34E−02
Si II	$3s^2 3p - 3s^2 7s$	^{2}P^o – ^{2}S	*849.4495*	*191.49*	117914.80	6	2	7.74E+07	2.79E−03
			850.1409	287.24	117914.80	4	2	5.13E+07	2.78E−03
			848.0700	0	117914.80	2	2	2.59E+07	2.79E−03
Si II	$3s^2 3p - 3s^2 6d$	^{2}P^o – ^{2}D	*845.0842*	*191.49*	*118522.90*	6	10	9.36E+07	1.67E−02
			845.7688	287.24	118522.86	4	4	1.56E+07	1.67E−03
			845.7683	287.24	118522.93	4	6	9.32E+07	1.50E−02
			843.7191	0	118522.86	2	4	7.82E+07	1.67E−02
Si II	$3s^2 3p - 3s^2 8s$	^{2}P^o – ^{2}S	*822.2137*	*191.49*	121814.38	6	2	4.71E+07	1.59E−03
			822.8615	287.24	121814.38	4	2	3.13E+07	1.59E−03
			820.9211	0	121814.38	2	2	1.58E+07	1.60E−03
Si II	$3s^2 3p - 3s^2 7d$	^{2}P^o – ^{2}D	*819.8601*	*191.49*	*122163.52*	6	10	4.86E+07	8.17E−03
			820.5045	287.24	122163.48	4	4	8.08E+06	8.16E−04
			820.5041	287.24	122163.54	4	6	4.85E+07	7.35E−03
			818.5752	0	122163.48	2	4	4.07E+07	8.18E−03
Si II	$3s^2 3p - 3s^2 9s$	^{2}P^o – ^{2}S	*805.8978*	*191.49*	124276.7	6	2	3.08E+07	1.00E−03
			806.5202	287.24	124276.7	4	2	2.05E+07	1.00E−03
			804.6561	0	124276.7	2	2	1.03E+07	1.00E−03
Si II	$3s^2 3p - 3s^2 8d$	^{2}P^o – ^{2}D	*804.4780*	*191.49*	*124495.7*	6	10	2.85E+07	4.61E−03
			805.0981	287.24	124495.7	4	6	2.85E+07	4.15E−03
			805.0981	287.24	124495.7	4	4	4.74E+06	4.61E−04
			803.2406	0	124495.7	2	4	2.39E+07	4.62E−03
Si II	$3s^2 3p - 3s 3p(^3\text{P}^o) 4p$	^{2}P^o – ^{2}P	*754.9638*	*191.49*	*132648.2*	6	6	3.21E+07	2.74E−03
			755.8301	287.24	132592.1	4	2	1.06E+07	4.56E−04
			755.3500	287.24	132676.2	4	4	2.67E+07	2.28E−03
			754.1927	0	132592.1	2	2	2.15E+07	1.83E−03
			753.7147	0	132676.2	2	4	5.37E+06	9.14E−04
Si III	$3s^2 - 3s 3p$	^{1}S – ^{1}P^o	1206.500	0	82884.41	1	3	2.57E+09	1.68E+00
Si III	$3s^2 - 3s 4p$	^{1}S – ^{1}P^o	566.6134	0	176487.19	1	3	1.07E+08	1.55E−02
Si III	$3s^2 - 3s 5p$	^{1}S – ^{1}P^o	466.1306	0	214532.17	1	3	1.44E+08	1.41E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si III	$3s^2-3p4s$:	^{1}S–^{1}P^o	437.2545	0	228699.75	1	3	5.62E+07	4.83E−03
Si III	$3s^2-3s6p$	^{1}S–^{1}P^o	426.6437	0	234387.64	1	3	5.07E+06	4.15E−04
Si III	$3s^2-3p3d$:	^{1}S–^{1}P^o	423.8166	0	235951.09	1	3	2.24E+07	1.81E−03
Si III	$3s^2-3s7p$	^{1}S–^{1}P^o	408.3775	0	244871.47	1	3	3.81E+07	2.86E−03
Si IV	$2p^6 3s-2p^6 3p$	^{2}S–^{2}P^o	*1396.747*	0	*71594.94*	2	6	8.93E+08	7.84E−01
			1402.770	0	71287.54	2	2	8.81E+08	2.60E−01
			1393.755	0	71748.64	2	4	9.00E+08	5.24E−01
Si IV	$2p^6 3s-2p^6 4p$	^{2}S–^{2}P^o	*457.9284*	0	*218374.73*	2	6	3.75E+08	3.54E−02
			458.1548	0	218266.86	2	2	3.75E+08	1.18E−02
			457.8154	0	218428.67	2	4	3.76E+08	2.36E−02
Si IV	$2p^6 3s-2p^6 5p$	^{2}S–^{2}P^o	*361.5932*	0	*276553.91*	2	6	2.74E+08	1.61E−02
			361.6589	0	276503.67	2	2	2.74E+08	5.37E−03
			361.5603	0	276579.03	2	4	2.76E+08	1.08E−02
Si IV	$2p^6 3s-2p^6 6p$	^{2}S–^{2}P^o	*327.1518*	0	*305668.55*	2	6	1.74E+08	8.36E−03
			327.1811	0	305641.10	2	2	1.74E+08	2.79E−03
			327.1371	0	305682.27	2	4	1.74E+08	5.57E−03
Si IV	$2p^6 3s-2p^6 7p$	^{2}S–^{2}P^o	*310.2415*	0	*322329.53*	2	6	1.13E+08	4.89E−03
			310.2575	0	322312.93	2	2	1.13E+08	1.63E−03
			310.2335	0	322337.83	2	4	1.13E+08	3.25E−03
Si IV	$2p^6 3s-2p^6 8p$	^{2}S–^{2}P^o	*300.5218*	0	*332754.57*	2	6	7.63E+07	3.10E−03
			300.5315	0	332743.87	2	2	7.68E+07	1.04E−03
			300.5170	0	332759.92	2	4	7.64E+07	2.07E−03
Si V	$2s^2 2p^6-2p^5 3s$	^{1}S–^{1}P^o	117.8535	0	848511.2	1	3	3.94E+10	2.46E−01
Si V	$2s^2 2p^6-2p^5 3d$	^{1}S–^{1}P^o	96.4399	0	1036915	1	3	2.58E+11	1.08E+00
Si VI	$2s^2 2p^5-2s2p^6$	^{2}P^o–^{2}S	*247.035*	*1697*	406497	6	2	2.62E+10	7.98E−02
			249.124	5090	406497	2	2	8.51E+09	7.92E−02
			246.004	0	406497	4	2	1.77E+10	8.02E−02
Si VI	$2s^2 2p^5-2p^4(^3\mathrm{P})3s$	^{2}P^o–^{2}P	*99.5062*	*1697*	*1006659*	6	6	7.88E+10	1.17E−01
			99.9660	5090	1005430	2	4	1.29E+10	3.86E−02
			99.5988	5090	1009118	2	2	5.22E+10	7.76E−02
			99.4599	0	1005430	4	4	6.55E+10	9.72E−02
			99.0964	0	1009118	4	2	2.65E+10	1.95E−02
Si VI	$2s^2 2p^5-2p^4(^1\mathrm{D})3s$	^{2}P^o–^{2}D	*96.1777*	*1697*	*1041438*	6	10	3.05E+10	7.06E−02
			96.4895	5090	1041472	2	4	2.52E+10	7.04E−02
			96.0231	0	1041416	4	6	3.07E+10	6.37E−02
			96.0179	0	1041472	4	4	5.11E+09	7.07E−03
Si VI	$2s^2 2p^5-2p^4(^1\mathrm{S})3s$	^{2}P^o–^{2}S	*91.5120*	*1697*	1094449	6	2	3.18E+10	1.33E−02
			91.7971	5090	1094449	2	2	1.04E+10	1.32E−02
			91.3702	0	1094449	4	2	2.13E+10	1.33E−02
Si VI	$2s^2 2p^5-2p^4(^3\mathrm{P})3d$	^{2}P^o–^{2}D	*83.2973*	*1697*	*1202220*	6	10	2.43E+11	4.22E−01
			83.6113	5090	1201100	2	4	2.00E+11	4.20E−01
			83.2570	0	1201100	4	4	4.06E+10	4.22E−02
			83.1283	0	1202960	4	6	2.45E+11	3.81E−01
Si VI	$2s^2 2p^5-2p^4(^3\mathrm{P})3d$	^{2}P^o–^{2}P	*83.2154*	*1697*	*1203400*	6	6	7.97E+10	8.27E−02
			83.6386	5090	1200710	2	2	5.23E+10	5.49E−02
			83.3576	5090	1204740	2	4	1.32E+10	2.76E−02
			83.2841	0	1200710	4	2	2.65E+10	1.38E−02
			83.0055	0	1204740	4	4	6.69E+10	6.91E−02
Si VI	$2s^2 2p^5-2p^4(^1\mathrm{D})3d$	^{2}P^o–^{2}S	*80.8085*	*1697*	1239190	6	2	3.68E+11	1.20E−01
			81.0307	5090	1239190	2	2	1.22E+11	1.20E−01
			80.6979	0	1239190	4	2	2.46E+11	1.20E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si VI	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*80.6582*	*1697*	*1241500*	6	6	3.38E+11	3.30E−01
			80.9088	5090	1241050	2	4	5.60E+10	1.10E−01
			80.8211	5090	1242390	2	2	2.25E+11	2.20E−01
			80.5769	0	1241050	4	4	2.83E+11	2.75E−01
			80.4900	0	1242390	4	2	1.13E+11	5.51E−02
Si VI	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*80.5374*	*1697*	*1243360*	6	10	2.11E+11	3.42E−01
			80.7252	5090	1243860	2	4	1.75E+11	3.41E−01
			80.4492	0	1243020	4	6	2.12E+11	3.08E−01
			80.3949	0	1243860	4	4	3.54E+10	3.43E−02
Si VI	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*77.5239*	*1697*	*1291620*	6	10	5.39E+10	8.10E−02
			77.7182	5090	1291790	2	4	4.46E+10	8.08E−02
			77.4287	0	1291510	4	6	5.41E+10	7.30E−02
			77.4120	0	1291790	4	4	9.03E+09	8.11E−03
Si VI	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*75.290*	*1697*	*1329900*	6	6	2.79E+10	2.37E−02
			75.483	5090	1329900	2	4	4.61E+09	7.87E−03
			75.194	0	1329900	4	4	2.32E+10	1.97E−02
				5090		2	2	1.86E+10	1.58E−02
				0		4	2	9.27E+09	3.94E−03
Si VI	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*72.986*	*1697*	*1371820*	6	10	8.71E+09	1.16E−02
			72.8959?	0	1371820?	4	6	8.79E+09	1.05E−02
				5090		2	4	7.26E+09	1.16E−02
				0		4	4	1.45E+09	1.16E−03
Si VI	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*71.3691*	*1697*	*1402860*	6	6	8.60E+10	6.57E−02
			71.5615	5090	1402490	2	2	5.69E+10	4.37E−02
			71.5328	5090	1403050	2	4	1.43E+10	2.19E−02
			71.3018	0	1402490	4	2	2.86E+10	1.09E−02
			71.2733	0	1403050	4	4	7.20E+10	5.48E−02
Si VI	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*71.2670*	*1697*	*1404870*	6	10	1.73E+11	2.20E−01
			71.1810?	0	1404870?	4	6	1.75E+11	1.99E−01
				5090		2	4	1.44E+11	2.20E−01
				0		4	4	2.89E+10	2.20E−02
Si VI	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*69.3043*	*1697*	*1444610*	6	10	6.73E+10	8.08E−02
			69.4483?	5090	1445010?	2	4	5.58E+10	8.07E−02
			69.2358?	0	1444340?	4	6	6.76E+10	7.29E−02
			69.2037?	0	1445010?	4	4	1.13E+10	8.10E−03
Si VI	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*66.8479*	*1697*	*1497630*	6	10	6.75E+09	7.54E−03
			66.7722?	0	1497630?	4	6	6.78E+09	6.80E−03
				5090		2	4	5.61E+09	7.52E−03
				0		4	4	1.12E+09	7.52E−04
Si VII	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*275.456*	*1962*	*364997*	9	9	1.24E+10	1.41E−01
			278.443	4030	363170	3	5	3.00E+09	5.81E−02
			276.839	5565	366786	1	3	4.06E+09	1.40E−01
			275.667	4030	366786	3	3	3.09E+09	3.52E−02
			275.353	0	363170	5	5	9.33E+09	1.06E−01
			274.175	4030	368761	3	1	1.26E+10	4.72E−02
			272.639	0	366786	5	3	5.32E+09	3.56E−02
Si VII	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*85.4330*	*1962*	1172470	9	3	1.30E+11	4.76E−02
			85.6968	5565	1172470	1	3	1.44E+10	4.74E−02
			85.5842	4030	1172470	3	3	4.33E+10	4.75E−02
			85.2900	0	1172470	5	3	7.27E+10	4.76E−02
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*81.7536*	*1962*	*1225150*	9	15	4.22E+10	7.04E−02
			81.9951	5565	1225150	1	3	2.32E+10	7.02E−02
			81.8920	4030	1225150	3	5	3.14E+10	5.27E−02
			81.8920	4030	1225150	3	3	1.75E+10	1.76E−02
			81.6227	0	1225150	5	7	4.23E+10	5.92E−02
			81.6227	0	1225150	5	5	1.06E+10	1.06E−02
			81.6227	0	1225150	5	3	1.18E+09	7.05E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*79.3727*	*1962*	*1261840*	9	9	4.21E+10	3.98E−02
			79.6150	5565	1261610	1	3	1.39E+10	3.97E−02
			79.5229?	4030	1261530?	3	1	4.18E+10	1.32E−02
			79.5178	4030	1261610	3	3	1.05E+10	9.93E−03
			79.4906	4030	1262040	3	5	1.05E+10	1.66E−02
			79.2638	0	1261610	5	3	1.76E+10	9.97E−03
			79.2368	0	1262040	5	5	3.18E+10	2.99E−02
Si VII	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*73.2337*	*1962*	*1367450*	9	15	2.04E+11	2.74E−01
			73.4325	5565	1367360	1	3	1.13E+11	2.73E−01
			73.3498	4030	1367360	3	5	1.52E+11	2.05E−01
			73.3498	4030	1367360	3	3	8.48E+10	6.84E−02
			73.1336	0	1367360	5	5	5.14E+10	4.12E−02
			73.1336	0	1367360	5	3	5.69E+09	2.74E−03
			73.1229	0	1367560	5	7	2.06E+11	2.31E−01
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*70.1219*	*1962*	*1428050*	9	15	2.98E+11	3.66E−01
			70.2218	4030	1428090	3	5	2.22E+11	2.73E−01
			70.0270	0	1428020	5	7	2.98E+11	3.07E−01
			70.0236	0	1428090	5	5	7.45E+10	5.48E−02
				5565		1	3	1.65E+11	3.66E−01
				4030		3	3	1.24E+11	9.14E−02
				0		5	3	8.27E+09	3.66E−03
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*69.7359*	*1962*	*1435940*	9	9	5.20E+11	3.79E−01
			69.8722	5565	1436750	1	3	1.72E+11	3.78E−01
			69.8602	4030	1435460	3	5	1.30E+11	1.58E−01
			69.7973	4030	1436750	3	3	1.30E+11	9.46E−02
			69.6641	0	1435460	5	5	3.90E+11	2.84E−01
			69.6015	0	1436750	5	3	2.18E+11	9.48E−02
				4030		3	1	5.18E+11	1.26E−01
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*69.4797*	*1962*	1441230	9	3	5.31E+11	1.28E−01
			69.6541	5565	1441230	1	3	5.87E+10	1.28E−01
			69.5797	4030	1441230	3	3	1.76E+11	1.28E−01
			69.3852	0	1441230	5	3	2.96E+11	1.28E−01
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*68.5218*	*1962*	*1461350*	9	9	7.20E+10	5.07E−02
			68.7146	5565	1460860	1	3	2.38E+10	5.05E−02
			68.6691	4030	1460290	3	1	7.17E+10	1.69E−02
			68.6422	4030	1460860	3	3	1.80E+10	1.27E−02
			68.5951	4030	1461860	3	5	1.79E+10	2.11E−02
			68.4528	0	1460860	5	3	3.01E+10	1.27E−02
			68.4060	0	1461860	5	5	5.42E+10	3.80E−02
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*68.2569*	*1962*	*1467015*	9	15	2.60E+11	3.03E−01
			68.3779	4030	1466490	3	5	1.94E+11	2.27E−01
			68.1900	0	1466490	5	5	6.53E+10	4.55E−02
			68.1482	0	1467390	5	7	2.62E+11	2.55E−01
				5565		1	3	1.45E+11	3.03E−01
				4030		3	3	1.09E+11	7.58E−02
				0		5	3	7.23E+09	3.03E−03
Si VII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*61.3799*	*1962*	*1631160*	9	15	2.73E+10	2.57E−02
			61.3061	0	1631160	5	7	2.74E+10	2.16E−02
				4030		3	5	2.04E+10	1.92E−02
				5565		1	3	1.52E+10	2.57E−02
				0		5	5	6.82E+09	3.85E−03
				4030		3	3	1.14E+10	6.42E−03
				0		5	3	7.58E+08	2.57E−04
Si VII	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*60.9096*	*1962*	*1643740*	9	15	1.26E+11	1.17E−01
			60.8369	0	1643740	5	7	1.26E+11	9.81E−02
				4030		3	5	9.44E+10	8.75E−02
				5565		1	3	7.01E+10	1.17E−01
				0		5	5	3.15E+10	1.75E−02
				4030		3	3	5.25E+10	2.92E−02
				0		5	3	3.51E+09	1.17E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si VII	$2s^2 2p^4 - 2p^3(^2P^o)4s$	$^3P - ^3P^o$	*59.954*	*1962*	*1669900*	9	9	1.54E+10	8.31E−03
			60.029	4030	1669900	3	5	3.84E+09	3.46E−03
			59.884	0	1669900	5	5	1.16E+10	6.24E−03
				4030		3	3	3.84E+09	2.07E−03
				0		5	3	6.43E+09	2.08E−03
				4030		3	1	1.54E+10	2.77E−03
				5565		1	3	5.13E+09	8.30E−03
Si VII	$2s^2 2p^4 - 2p^3(^2D^o)4d$	$^3P - ^3D^o$	*58.6466*	*1962*	*1707090*	9	15	8.34E+10	7.17E−02
			58.7178	4030	1707090	3	5	6.22E+10	5.36E−02
			58.5792	0	1707090	5	7	8.37E+10	6.03E−02
			58.5792	0	1707090	5	5	2.08E+10	1.07E−02
				5565		1	3	4.63E+10	7.17E−02
				4030		3	3	3.47E+10	1.79E−02
				0		5	3	2.32E+09	7.17E−04
Si VII	$2s^2 2p^4 - 2p^3(^2D^o)4d$	$^3P - ^3P^o$	*58.5121*	*1962*	*1711010*	9	9	1.60E+11	8.22E−02
			58.5830	4030	1711010	3	5	4.00E+10	3.43E−02
			58.4450	0	1711010	5	5	1.21E+11	6.18E−02
				4030		3	3	4.01E+10	2.06E−02
				0		5	3	6.69E+10	2.06E−02
				4030		3	1	1.60E+11	2.74E−02
				5565		1	3	5.34E+10	8.22E−02
Si VII	$2s^2 2p^4 - 2p^3(^2D^o)4d$	$^3P - ^3S^o$	*58.4550*	*1962*	1712680	9	3	2.41E+11	4.12E−02
			58.5784	5565	1712680	1	3	2.66E+10	4.11E−02
			58.5257	4030	1712680	3	3	8.02E+10	4.12E−02
			58.3880	0	1712680	5	3	1.35E+11	4.13E−02
Si VII	$2s^2 2p^4 - 2p^3(^2P^o)4d$	$^3P - ^3P^o$	*57.4987*	*1962*	*1741130*	9	9	5.25E+10	2.60E−02
			57.5672	4030	1741130	3	5	1.30E+10	1.08E−02
			57.4340	0	1741130	5	5	3.94E+10	1.95E−02
				4030		3	3	1.31E+10	6.50E−03
				0		5	3	2.19E+10	6.50E−03
				4030		3	1	5.25E+10	8.67E−03
				5565		1	3	1.75E+10	2.60E−02
Si VII	$2s^2 2p^4 - 2p^3(^2P^o)4d$	$^3P - ^3D^o$	*57.3895*	*1962*	*1744440*	9	15	8.89E+10	7.32E−02
			57.3250	0	1744440	5	7	8.93E+10	6.16E−02
				4030		3	5	6.67E+10	5.49E−02
				5565		1	3	4.94E+10	7.32E−02
				0		5	5	2.23E+10	1.10E−02
				4030		3	3	3.71E+10	1.83E−02
				0		5	3	2.47E+09	7.32E−04
Si VII	$2s^2 2p^4 - 2p^3(^4S^o)5d$	$^3P - ^3D^o$	*56.5906*	*1962*	*1769040*	9	15	1.15E+11	9.18E−02
			56.5278	0	1769040	5	7	1.15E+11	7.72E−02
				4030		3	5	8.60E+10	6.88E−02
				5565		1	3	6.37E+10	9.18E−02
				0		5	5	2.87E+10	1.38E−02
				4030		3	3	4.77E+10	2.29E−02
				0		5	3	3.19E+09	9.18E−04
Si VII	$2s^2 2p^4 - 2p^3(^2D^o)5d$	$^3P - ^3D^o$	*54.5804*	*1962*	*1834120*	9	15	1.10E+09	8.21E−04
			54.5221	0	1834120	5	7	1.11E+09	6.90E−04
				4030		3	5	8.26E+08	6.15E−04
				5565		1	3	6.12E+08	8.20E−04
				0		5	5	2.75E+08	1.23E−04
				4030		3	3	4.59E+08	2.05E−04
				0		5	3	3.06E+07	8.20E−06
Si VII	$2s^2 2p^4 - 2p^3(^2D^o)5d$:	$^3P - ^3P^o$	*54.5203*	*1962*	*1836140*	9	9	5.70E+10	2.54E−02
			54.5819	4030	1836140	3	5	1.42E+10	1.06E−02
			54.4621	0	1836140	5	5	4.30E+10	1.91E−02
				4030		3	3	1.43E+10	6.36E−03
				0		5	3	2.38E+10	6.36E−03
				4030		3	1	5.71E+10	8.48E−03
				5565		1	3	1.90E+10	2.54E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si VIII	$2s^22p^3-2s2p^4$	$^4S^o-{}^4P$	*317.69*	0	*314775*	4	12	3.92E+09	1.78E−01
			319.83	0	312670	4	6	3.83E+09	8.82E−02
			316.21	0	316250	4	4	3.96E+09	5.94E−02
			314.33	0	318140	4	2	4.04E+09	2.99E−02
Si VIII	$2s^22p^3-2p^2(^3P)3s$	$^4S^o-{}^4P$	*69.7301*	0	*1434100*	4	12	5.44E+10	1.19E−01
			69.9051	0	1430510	4	2	5.43E+10	1.99E−02
			69.7900	0	1432870	4	4	5.45E+10	3.98E−02
			69.6321	0	1436120	4	6	5.48E+10	5.98E−02
Si VIII	$2s^22p^3-2p^2(^3P)3d$	$^4S^o-{}^4P$	*61.0394*	0	*1638285*	4	12	9.07E+11	1.52E+00
			61.0698	0	1637470	4	6	9.11E+11	7.64E−01
			61.0191	0	1638830	4	4	9.14E+11	5.10E−01
			60.9890	0	1639640	4	2	9.15E+11	2.55E−01
Si VIII	$2s^22p^3-2p^3(^5S^o)3p$	$^4S^o-{}^4P$	*58.8848*	0	*1698230*	4	12	1.12E+11	1.75E−01
			58.8848?	0	1698230?	4	6	1.12E+11	8.76E−02
			58.8848?	0	1698230?	4	4	1.12E+11	5.84E−02
			58.8848?	0	1698230?	4	2	1.12E+11	2.92E−02
Si VIII	$2s^22p^3-2p^2(^3P)4d$	$^4S^o-{}^4P$	*50.0062*	0	*1999750*	4	12	2.79E+11	3.14E−01
			50.0190	0	1999240	4	6	2.79E+11	1.57E−01
			49.9870?	0	2000520?	4	4	2.80E+11	1.05E−01
				0		4	2	2.80E+11	5.25E−02
Si IX	$2s^22p^2-2s2p^3$	$^3P-{}^3D^o$	*347.363*	*4412*	*292295*	9	15	2.30E+09	6.94E−02
			349.873	6414	292232	5	7	2.25E+09	5.79E−02
			349.795	6414	292296	5	5	5.61E+08	1.03E−02
			349.617	6414	292441	5	3	6.28E+07	6.90E−04
			345.124	2545.0	292296	3	5	1.76E+09	5.24E−02
			344.951	2545.0	292441	3	3	9.75E+08	1.74E−02
			341.949	0	292441	1	3	1.34E+09	7.05E−02
Si IX	$2s^22p^2-2s2p^3$	$^3P-{}^3P^o$	*294.408*	*4412*	*344077*	9	9	6.04E+09	7.85E−02
			296.213	6414	344009	5	3	2.47E+09	1.95E−02
			296.117	6414	344118	5	5	4.46E+09	5.86E−02
			292.857	2545.0	344009	3	3	1.54E+09	1.98E−02
			292.800	2545.0	344075	3	1	6.14E+09	2.63E−02
			292.763	2545.0	344118	3	5	1.54E+09	3.29E−02
			290.690	0	344009	1	3	2.09E+09	7.95E−02
Si IX	$2s^22p^2-2s2p^3$	$^3P-{}^3S^o$	*225.973*	*4412*	446942	9	3	3.67E+10	9.37E−02
			227.000	6414	446942	5	3	2.01E+10	9.33E−02
			225.024	2545.0	446942	3	3	1.24E+10	9.41E−02
			223.743	0	446942	1	3	4.21E+09	9.47E−02
Si IX	$2s^22p^2-2s^22p3s$	$^3P-{}^3P^o$	*61.6459*	*4412*	*1626580*	9	9	1.16E+11	6.61E−02
			61.8442	6414	1623380	5	3	4.80E+10	1.65E−02
			61.6966	2545.0	1623380	3	3	2.89E+10	1.65E−02
			61.6490	6414	1628500	5	5	8.70E+10	4.96E−02
			61.5999	0	1623380	1	3	3.88E+10	6.62E−02
			61.5023	2545.0	1628500	3	5	2.92E+10	2.76E−02
				2545.0		3	1	1.16E+11	2.20E−02
Si IX	$2s^22p^2-2s^22p3d$	$^3P-{}^3D^o$	*55.3842*	*4412*	*1809980*	9	15	1.09E+12	8.38E−01
			55.5017	6414	1808160	5	3	3.02E+10	8.37E−03
			55.4746	6414	1809040	5	5	2.73E+11	1.26E−01
			55.4012	6414	1811430	5	7	1.09E+12	7.04E−01
			55.3828	2545.0	1808160	3	3	4.54E+11	2.09E−01
			55.3558	2545.0	1809040	3	5	8.21E+11	6.29E−01
			55.3048	0	1808160	1	3	6.11E+11	8.40E−01
Si IX	$2s^22p^2-2s^22p3d$	$^3P-{}^3P^o$	*55.1914*	*4412*	*1816290*	9	9	6.09E+11	2.78E−01
			55.2719	6414	1815650	5	5	4.54E+11	2.08E−01
			55.2338	6414	1816900	5	3	2.53E+11	6.94E−02
			55.1540	2545.0	1815650	3	5	1.53E+11	1.16E−01
			55.1160	2545.0	1816900	3	3	1.53E+11	6.96E−02
			55.0938	2545.0	1817630	3	1	6.12E+11	9.29E−02
			55.0388	0	1816900	1	3	2.05E+11	2.79E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si IX	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{S}^o$	*53.9337*	*4412*	1858540	9	3	2.61E+11	3.80E−02
			53.9920?	6414	1858540?	5	3	1.45E+11	3.80E−02
			53.8795?	2545.0	1858540?	3	3	8.73E+10	3.80E−02
			53.8057?	0	1858540?	1	3	2.93E+10	3.81E−02
Si IX	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	$^3\mathrm{P}-^3\mathrm{D}^o$	*52.8154*	*4412*	*1897800*	9	15	2.25E+11	1.57E−01
			52.9180	6414	1896130	5	5	5.57E+10	2.34E−02
			52.8380	6414	1898990	5	7	2.25E+11	1.32E−01
			52.8099	2545.0	1896130	3	5	1.69E+11	1.18E−01
				0		1	3	1.24E+11	1.56E−01
				2545.0		3	3	9.30E+10	3.89E−02
				6414		5	3	6.22E+09	1.56E−03
Si IX	$2s^22p^2-2s^22p4d$	$^3\mathrm{P}-^3\mathrm{D}^o$	*44.2272*	*4412*	*2265460*	9	15	3.81E+11	1.86E−01
			44.2908?	6414	2264220?	5	5	9.45E+10	2.78E−02
			44.2490?	6414	2266350?	5	7	3.80E+11	1.56E−01
			44.2150?	2545.0	2264220?	3	5	2.85E+11	1.39E−01
				0		1	3	2.11E+11	1.86E−01
				2545.0		3	3	1.58E+11	4.64E−02
				6414		5	3	1.06E+10	1.86E−03
Si X	$2s^22p-2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{D}$	*353.10*	*4660.4*	*287868*	6	10	2.09E+09	6.51E−02
			356.05	6990.6	287850	4	4	3.40E+08	6.46E−03
			356.01	6990.6	287880	4	6	2.04E+09	5.81E−02
			347.40	0	287850	2	4	1.83E+09	6.62E−02
Si X	$2s^22p-2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{S}$	*275.47*	*4660.4*	367670	6	2	9.10E+09	3.45E−02
			277.25	6990.6	367670	4	2	5.94E+09	3.42E−02
			271.98	0	367670	2	2	3.15E+09	3.49E−02
Si X	$2s^22p-2s2p^2$	$^2\mathrm{P}^o-^2\mathrm{P}$	*257.71*	*4660.4*	*392700*	6	6	1.73E+10	1.72E−01
			261.06	6990.6	390040	4	2	5.52E+09	2.82E−02
			258.37	6990.6	394030	4	4	1.43E+10	1.43E−01
			256.38	0	390040	2	2	1.17E+10	1.15E−01
			253.79	0	394030	2	4	3.01E+09	5.82E−02
Si X	$2s^22p-2s^23s$	$^2\mathrm{P}^o-^2\mathrm{S}$	*55.025*	*4660.4*	1822000	6	2	1.61E+11	2.43E−02
			55.096	6990.6	1822000	4	2	1.07E+11	2.43E−02
			54.885	0	1822000	2	2	5.40E+10	2.44E−02
Si X	$2s^22p-2s^23d$	$^2\mathrm{P}^o-^2\mathrm{D}$	*50.6359*	*4660.4*	*1979540*	6	10	9.77E+11	6.26E−01
			50.7030?	6990.6	1979260?	4	4	1.62E+11	6.25E−02
			50.6909	6990.6	1979730	4	6	9.73E+11	5.62E−01
			50.5239?	0	1979260?	2	4	8.20E+11	6.28E−01
Si X	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{P}$	*48.5114*	*4660.4*	*2066030*	6	6	3.71E+11	1.31E−01
			48.6003	6990.6	2064590	4	2	1.24E+11	2.19E−02
			48.5494	6990.6	2066750	4	4	3.08E+11	1.09E−01
			48.4358	0	2064590	2	2	2.50E+11	8.79E−02
			48.3851	0	2066750	2	4	6.27E+10	4.40E−02
Si X	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{D}$	*47.5331*	*4660.4*	*2108460*	6	10	4.18E+11	2.36E−01
			47.6472	6990.6	2105750?	4	4	6.90E+10	2.35E−02
			47.5450	6990.6	2110260	4	6	4.19E+11	2.13E−01
			47.4890	0	2105750?	2	4	3.49E+11	2.36E−01
Si X	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{S}$	*46.994*	*4660.4*	2132600	6	2	4.29E+11	4.74E−02
			47.045	6990.6	2132600	4	2	2.85E+11	4.73E−02
			46.891	0	2132600	2	2	1.44E+11	4.75E−02
Si X	$2s^22p-2s2p(^1\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{P}$	*44.793*	*4660.4*	*2237100*	6	6	1.34E+11	4.04E−02
			44.859	6990.6	2236200	4	2	4.46E+10	6.73E−03
			44.831	6990.6	2237600	4	4	1.12E+11	3.37E−02
			44.719	0	2236200	2	2	9.01E+10	2.70E−02
			44.691	0	2237600	2	4	2.25E+10	1.35E−02
Si X	$2s^22p-2s2p(^1\mathrm{P}^o)3p$	$^2\mathrm{P}^o-^2\mathrm{S}$	*44.610*	*4660.4*	2246300	6	2	7.81E+10	7.77E−03
			44.657	6990.6	2246300	4	2	5.19E+10	7.76E−03
			44.518	0	2246300	2	2	2.62E+10	7.78E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si X	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*39.5155*	*4660.4*	*2535310*	6	10	3.25E+11	1.27E−01
			39.5520	6990.6	2535310	4	6	3.27E+11	1.15E−01
			39.5520	6990.6	2535310	4	4	5.46E+10	1.28E−02
			39.4429	0	2535310	2	4	2.72E+11	1.27E−01
Si X	$2s^2 2p - 2s2p(^3\text{P}^o)4p$	^{2}P^o – ^{2}D	*37.189*	*4660.4*	*2693600*	6	10	1.77E+11	6.12E−02
			37.256	6990.6	2691100	4	4	2.94E+10	6.11E−03
			37.198	6990.6	2695300	4	6	1.77E+11	5.51E−02
			37.160	0	2691100	2	4	1.48E+11	6.13E−02
Si X	$2s^2 2p - 2s^2 5d$	^{2}P^o – ^{2}D	*35.9020*	*4660.4*	*2790020*	6	10	1.56E+11	5.04E−02
			35.9321	6990.6	2790020	4	6	1.56E+11	4.53E−02
				0		2	4	1.30E+11	5.03E−02
				6990.6		4	4	2.60E+10	5.03E−03
Si X	$2s^2 2p - 2s^2 6d$	^{2}P^o – ^{2}D	*34.2107*	*4660.4*	*2927720*	6	10	8.21E+10	2.40E−02
			34.2380?	6990.6	2927720?	4	6	8.19E+10	2.16E−02
				0		2	4	6.84E+10	2.40E−02
				6990.6		4	4	1.37E+10	2.40E−03
Si XI	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	303.325	0	329679	1	3	6.40E+09	2.65E−01
Si XI	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	43.7623	0	2285070	1	3	6.77E+11	5.83E−01
Si XI	$2s^2 - 2p3s$	^{1}S – ^{1}P^o	40.4722	0	2470830	1	3	2.77E+10	2.04E−02
Si XI	$2s^2 - 2p3d$	^{1}S – ^{1}P^o	38.6090	0	2590070	1	3	5.01E+10	3.36E−02
Si XI	$2s^2 - 2s4p$	^{1}S – ^{1}P^o	33.5133	0	2983890	1	3	3.03E+11	1.53E−01
Si XI	$2s^2 - 2p4s$	^{1}S – ^{1}P^o	31.6213	0	3162421	1	3	9.23E+07	4.15E−05
Si XI	$2s^2 - 2p4d$	^{1}S – ^{1}P^o	31.0826	0	3217230	1	3	3.38E+10	1.47E−02
Si XI	$2s^2 - 2s5p$	^{1}S – ^{1}P^o	30.3218	0	3297960	1	3	1.47E+11	6.09E−02
Si XI	$2s^2 - 2p5d$	^{1}S – ^{1}P^o	28.4766	0	3511650	1	3	1.10E+10	4.01E−03
Si XII	$1s^2 2s - 1s^2 2p$	^{2}S – ^{2}P^o	*506.297*	0	*197513*	2	6	9.19E+08	1.06E−01
			520.665	0	192062	2	2	8.49E+08	3.45E−02
			499.406	0	200238	2	4	9.61E+08	7.19E−02
Si XII	$1s^2 2s - 1s^2 3p$	^{2}S – ^{2}P^o	*40.9243*	0	*2443530*	2	6	4.55E+11	3.43E−01
			40.9510	0	2441940	2	2	4.53E+11	1.14E−01
			40.9110	0	2444330	2	4	4.56E+11	2.29E−01
Si XII	$1s^2 2s - 1s^2 4p$	^{2}S – ^{2}P^o	*31.0156*	0	*3224180*	2	6	2.04E+11	8.83E−02
			31.0227	0	3223450	2	2	2.04E+11	2.94E−02
			31.0121	0	3224550	2	4	2.04E+11	5.89E−02
Si XII	$1s^2 2s - 1s^2 5p$	^{2}S – ^{2}P^o	*27.8980*	0	*3584480*	2	6	1.06E+11	3.70E−02
			27.9006	0	[3584150]	2	2	1.05E+11	1.23E−02
			27.8967	0	[3584650]	2	4	1.06E+11	2.47E−02
Si XII	$1s^2 2s - 1s^2 6p$	^{2}S – ^{2}P^o	*26.4571*	0	*3779700*	2	6	6.16E+10	1.94E−02
			26.4585	0	[3779500]	2	2	6.15E+10	6.45E−03
			26.4564	0	[3779800]	2	4	6.15E+10	1.29E−02
Si XII	$1s^2 2s - 1s^2 7p$	^{2}S – ^{2}P^o	*25.6589*	0	*3897280*	2	6	3.88E+10	1.15E−02
			25.6598	0	[3897150]	2	2	3.88E+10	3.83E−03
			25.6585	0	[3897350]	2	4	3.88E+10	7.65E−03
Si XIII	$1s^2 - 1s2p$	^{1}S – ^{1}P^o	6.6480	0	[15042040]	1	3	3.81E+13	7.57E−01
Si XIII	$1s^2 - 1s3p$	^{1}S – ^{1}P^o	5.6807	0	[17603422]	1	3	1.05E+13	1.52E−01
Si XIII	$1s^2 - 1s4p$	^{1}S – ^{1}P^o	5.4046	0	[18502736]	1	3	4.32E+12	5.68E−02
Si XIII	$1s^2 - 1s5p$	^{1}S – ^{1}P^o	5.2856	0	[18919421]	1	3	2.19E+12	2.75E−02
Si XIII	$1s^2 - 1s6p$	^{1}S – ^{1}P^o	5.2231	0	[19145877]	1	3	1.26E+12	1.54E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Si XIII	$1s^2-1s7p$	^{1}S$-^1$P^o	5.1861	0	[19282456]	1	3	7.89E+11	9.54E−03
Si XIII	$1s^2-1s8p$	^{1}S$-^1$P^o	5.1623	0	[19371113]	1	3	5.27E+11	6.32E−03
Si XIII	$1s^2-1s9p$	^{1}S$-^1$P^o	5.1462	0	[19431902]	1	3	3.70E+11	4.41E−03
Si XIII	$1s^2-1s10p$	^{1}S$-^1$P^o	5.1347	0	[19475387]	1	3	2.70E+11	3.20E−03
Si XIV	$1s-2p$	^{2}S$-^2$P^o	*6.1822*	0	*16175365*	2	6	2.42E+13	4.16E−01
			6.1858	0	[16165930]	2	2	2.42E+13	1.39E−01
			6.1804	0	[16180083]	2	4	2.42E+13	2.77E−01
Si XIV	$1s-3p$	^{2}S$-^2$P^o	*5.2172*	0	*19167339*	2	6	6.45E+12	7.90E−02
			5.2180	0	[19164543]	2	2	6.44E+12	2.63E−02
			5.2168	0	[19168737]	2	4	6.46E+12	5.27E−02
Si XIV	$1s-4p$	^{2}S$-^2$P^o	*4.9469*	0	*20214660*	2	6	2.63E+12	2.90E−02
			4.9472	0	[20213481]	2	2	2.64E+12	9.67E−03
			4.9468	0	[20215250]	2	4	2.63E+12	1.93E−02
Si XIV	$1s-5p$	^{2}S$-^2$P^o	*4.8311*	0	*2069934 7*	2	6	1.32E+12	1.39E−02
			4.8312	0	[20698744]	2	2	1.33E+12	4.65E−03
			4.8310	0	[20699649]	2	4	1.33E+12	9.30E−03
Si XIV	$1s-6p$	^{2}S$-^2$P^o	*4.7704*	0	*20962590*	2	6	7.62E+11	7.80E−03
			4.7705	0	[20962241]	2	2	7.62E+11	2.60E−03
			4.7704	0	[20962765]	2	4	7.62E+11	5.20E−03
Si XIV	$1s-7p$	^{2}S$-^2$P^o	*4.7346*	0	*21121293*	2	6	4.78E+11	4.82E−03
			4.7346	0	[21121074]	2	2	4.76E+11	1.60E−03
			4.7345	0	[21121403]	2	4	4.78E+11	3.21E−03
Si XIV	$1s-8p$	^{2}S$-^2$P^o	*4.7116*	0	*21224285*	2	6	3.19E+11	3.19E−03
			4.7116	0	[21224359]	2	4	3.18E+11	2.12E−03
			4.7116	0	[21224138]	2	2	3.18E+11	1.06E−03
Si XIV	$1s-9p$	^{2}S$-^2$P^o	*4.6960*	0	*21294889*	2	6	2.24E+11	2.22E−03
			4.6960	0	[21294941]	2	4	2.24E+11	1.48E−03
			4.6960	0	[21294786]	2	2	2.23E+11	7.38E−04
Si XIV	$1s-10p$	^{2}S$-^2$P^o	*4.6849*	0	*21345387*	2	6	1.62E+11	1.60E−03
			4.6849	0	[21345312]	2	2	1.63E+11	5.35E−04
			4.6848	0	[21345425]	2	4	1.63E+11	1.07E−03
S I	$3s^23p^4-3p^3(^4$S$^o)4s$	^{3}P$-^3$S^o	*1813.7281*	*195.756*	55330.811	9	3	5.12E+08	8.42E−02
			1826.2448	573.640	55330.811	1	3	5.57E+07	8.36E−02
			1820.3412	396.055	55330.811	3	3	1.69E+08	8.39E−02
			1807.3113	0	55330.811	5	3	2.88E+08	8.45E−02
S I	$3s^23p^4-3p^3(^2$D$^o)4s$	^{3}P$-^3$D^o	*1478.5044*	*195.756*	*67831.671*	9	15	7.47E+07	4.08E−02
			1487.1500	573.640	67816.351	1	3	4.07E+07	4.05E−02
			1483.2329	396.055	67816.351	3	3	3.06E+07	1.01E−02
			1483.0385	396.055	67825.188	3	5	5.55E+07	3.05E−02
			1474.5706	0	67816.351	5	3	2.09E+06	4.09E−04
			1474.3785	0	67825.188	5	5	1.88E+07	6.14E−03
			1473.9943	0	67842.867	5	7	7.54E+07	3.44E−02
S I	$3s^23p^4-3p^3(^4$S$^o)3d$	^{3}P$-^3$D^o	*1429.1073*	*195.756*	*70169.507*	9	15	2.80E+08	1.43E−01
			1436.9672	573.640	70164.650	1	3	1.53E+08	1.42E−01
			1433.3096	396.055	70164.650	3	3	1.16E+08	3.57E−02
			1433.2781	396.055	70166.187	3	5	2.08E+08	1.07E−01
			1425.2191	0	70164.650	5	3	7.88E+06	1.44E−03
			1425.1879	0	70166.187	5	5	7.09E+07	2.16E−02
			1425.0300	0	70173.960	5	7	2.84E+08	1.21E−01
S I	$3s^23p^4-3p^3(^4$S$^o)5s$	^{3}P$-^3$S^o	*1405.3699*	*195.756*	71351.399	9	3	1.44E+08	1.42E−02
			1412.8732	573.640	71351.399	1	3	1.57E+07	1.41E−02
			1409.3371	396.055	71351.399	3	3	4.73E+07	1.41E−02
			1401.5142	0	71351.399	5	3	8.04E+07	1.42E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S I	$3s^2 3p^4 - 3s 3p^5$	$^3P - ^3P^o$	*1388.7297*	*195.756*	*72204.010*	9	9	1.75E+06	5.07E−04
			1396.1130	396.055	72023.495	3	5	4.31E+05	2.10E−04
			1392.5892	573.640	72382.328	1	3	5.80E+05	5.06E−04
			1389.1537	396.055	72382.328	3	3	4.36E+05	1.26E−04
			1388.4358	0	72023.495	5	5	1.32E+06	3.81E−04
			1385.5103	396.055	72571.630	3	1	1.77E+06	1.70E−04
			1381.5527	0	72382.328	5	3	7.40E+05	1.27E−04
S I	$3s^2 3p^4 - 3p^3(^4S^o)4d$	$^3P - ^3D^o$	*1319.985*	*195.756*	*75954.22*	9	15	6.16E+07	2.68E−02
			1326.642	573.640	75951.95	1	3	3.37E+07	2.67E−02
			1323.523	396.055	75951.95	3	3	2.55E+07	6.69E−03
			1323.516	396.055	75952.35	3	5	4.59E+07	2.01E−02
			1316.622	0	75951.95	5	3	1.73E+06	2.69E−04
			1316.615	0	75952.35	5	5	1.55E+07	4.03E−03
			1316.543	0	75956.53	5	7	6.21E+07	2.26E−02
S I	$3s^2 3p^4 - 3p^3(^4S^o)6s$	$^3P - ^3S^o$	*1306.764*	*195.756*	76720.65	9	3	5.38E+07	4.59E−03
			1313.249	573.640	76720.65	1	3	5.89E+06	4.57E−03
			1310.194	396.055	76720.65	3	3	1.78E+07	4.58E−03
			1303.430	0	76720.65	5	3	3.01E+07	4.60E−03
S I	$3s^2 3p^4 - 3p^3(^2P^o)4s$	$^3P - ^3P^o$	*1299.208*	*195.756*	*77165.74*	9	9	4.39E+08	1.11E−01
			1305.884	573.640	77150.14	1	3	1.45E+08	1.11E−01
			1303.110	396.055	77135.52	3	1	4.36E+08	3.70E−02
			1302.862	396.055	77150.14	3	3	1.09E+08	2.77E−02
			1302.336	396.055	77181.15	3	5	1.09E+08	4.62E−02
			1296.174	0	77150.14	5	3	1.84E+08	2.78E−02
			1295.653	0	77181.15	5	5	3.32E+08	8.36E−02
S I	$3s^2 3p^4 - 3p^3(^4S^o)5d$	$^3P - ^3D^o$	*1273.950*	*195.756*	*78691.80*	9	15	1.02E+07	4.13E−03
			1280.100	573.640	78692.53	1	3	5.58E+06	4.11E−03
			1277.216	396.055	78691.37	3	5	7.56E+06	3.08E−03
			1277.197	396.055	78692.53	3	3	4.17E+06	1.02E−03
			1270.787	0	78691.37	5	5	2.56E+06	6.21E−04
			1270.780	0	78691.80	5	7	1.02E+07	3.47E−03
			1270.769	0	78692.53	5	3	2.85E+05	4.14E−05
S I	$3s^2 3p^4 - 3p^3(^4S^o)7s$	$^3P - ^3S^o$	*1265.990*	*195.756*	79185.35	9	3	2.48E+07	1.99E−03
			1272.075	573.640	79185.35	1	3	2.73E+06	1.99E−03
			1269.208	396.055	79185.35	3	3	8.24E+06	1.99E−03
			1262.860	0	79185.35	5	3	1.39E+07	2.00E−03
S I	$3s^2 3p^4 - 3p^3(^4S^o)6d$	$^3P - ^3D^o$	*1250.193*	*195.756*	*80183.40*	9	15	2.26E+05	8.84E−05
			1256.093	573.640	80185.60	1	3	1.24E+05	8.80E−05
			1253.325	396.055	80183.83	3	5	1.68E+05	6.61E−05
			1253.297	396.055	80185.60	3	3	9.34E+04	2.20E−05
			1247.160	0	80182.16	5	7	2.28E+05	7.44E−05
			1247.134	0	80183.83	5	5	5.70E+04	1.33E−05
			1247.107	0	80185.60	5	3	6.33E+03	8.86E−07
S I	$3s^2 3p^4 - 3p^3(^4S^o)8s$	$^3P - ^3S^o$	*1244.932*	*195.756*	80521.46	9	3	1.32E+07	1.02E−03
			1250.816	573.640	80521.46	1	3	1.44E+06	1.01E−03
			1248.044	396.055	80521.46	3	3	4.33E+06	1.01E−03
			1241.905	0	80521.46	5	3	7.35E+06	1.02E−03
S I	$3s^2 3p^4 - 3p^3(^4S^o)7d$	$^3P - ^3D^o$	*1236.306*	*195.756*	*81081.89*	9	15	1.09E+06	4.16E−04
			1242.066	573.640	81084.67	1	3	5.97E+05	4.14E−04
			1239.366	396.055	81082.46	3	5	8.13E+05	3.12E−04
			1239.332	396.055	81084.67	3	3	4.52E+05	1.04E−04
			1233.345	0	81080.29	5	7	1.10E+06	3.51E−04
			1233.312	0	81082.46	5	5	2.75E+05	6.26E−05
			1233.279	0	81084.67	5	3	3.05E+04	4.17E−06
S I	$3s^2 3p^4 - 3p^3(^4S^o)9s$	$^3P - ^3S^o$	*1232.574*	*195.756*	81326.81	9	3	7.57E+06	5.75E−04
			1238.341	573.640	81326.81	1	3	8.31E+05	5.73E−04
			1235.624	396.055	81326.81	3	3	2.51E+06	5.74E−04
			1229.607	0	81326.81	5	3	4.24E+06	5.77E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S I	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)8d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*1227.459*	*195.756*	*81664.88*	9	15	3.37E+06	1.27E−03
			1233.132	573.640	81667.93	1	3	1.84E+06	1.26E−03
			1230.473	396.055	81665.61	3	5	2.51E+06	9.51E−04
			1230.438	396.055	81667.93	3	3	1.40E+06	3.17E−04
			1224.544	0	81663.05	5	7	3.40E+06	1.07E−03
			1224.506	0	81665.61	5	5	8.50E+05	1.91E−04
			1224.471	0	81667.93	5	3	9.42E+04	1.27E−05
S I	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)10s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*1224.681*	*195.756*	81849.68	9	3	4.72E+06	3.54E−04
			1230.375	573.640	81849.68	1	3	5.18E+05	3.53E−04
			1227.692	396.055	81849.68	3	3	1.56E+06	3.53E−04
			1221.752	0	81849.68	5	3	2.64E+06	3.55E−04
S I	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)9d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*1221.484*	*195.756*	*82063.37*	9	15	4.85E+06	1.81E−03
			1227.091	573.640	82067.22	1	3	2.66E+06	1.80E−03
			1224.480	396.055	82063.40	3	5	3.60E+06	1.35E−03
			1224.422	396.055	82067.22	3	3	2.00E+06	4.50E−04
			1218.595	0	82061.70	5	7	4.88E+06	1.52E−03
			1218.570	0	82063.40	5	5	1.22E+06	2.72E−04
			1218.513	0	82067.22	5	3	1.36E+05	1.81E−05
S I	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)11s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*1219.328*	*195.756*	82208.17	9	3	3.12E+06	2.32E−04
			1224.972	573.640	82208.17	1	3	3.42E+05	2.31E−04
			1222.313	396.055	82208.17	3	3	1.03E+06	2.31E−04
			1216.424	0	82208.17	5	3	1.74E+06	2.32E−04
S I	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)10d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*1217.196*	*195.756*	*82351.79*	9	15	5.38E+06	1.99E−03
			1222.799	573.640	82353.25	1	3	2.94E+06	1.98E−03
			1220.163	396.055	82352.35	3	5	4.01E+06	1.49E−03
			1220.149	396.055	82353.25	3	3	2.22E+06	4.96E−04
			1214.318	0	82350.77	5	7	5.43E+06	1.68E−03
			1214.294	0	82352.35	5	5	1.35E+06	2.99E−04
			1214.281	0	82353.25	5	3	1.50E+05	1.99E−05
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1158.777*	*195.756*	*86493.66*	9	9	9.64E+07	1.94E−02
			1163.996	573.640	86484.57	1	3	3.17E+07	1.93E−02
			1161.749	396.055	86473.17	3	1	9.56E+07	6.45E−03
			1161.595	396.055	86484.57	3	3	2.39E+07	4.84E−03
			1161.344	396.055	86503.21	3	5	2.39E+07	8.07E−03
			1156.276	0	86484.57	5	3	4.05E+07	4.87E−03
			1156.026	0	86503.21	5	5	7.29E+07	1.46E−02
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)4d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1095.21*	*195.756*	*91502*	9	9	8.12E+07	1.46E−02
			1099.96	573.640	91486	1	3	2.68E+07	1.46E−02
			1098.02?	396.055	91469?	3	1	8.08E+07	4.87E−03
			1097.82	396.055	91486	3	3	2.03E+07	3.66E−03
			1097.42	396.055	91519	3	5	2.02E+07	6.09E−03
			1093.06	0	91486	5	3	3.42E+07	3.68E−03
			1092.67	0	91519	5	5	6.15E+07	1.10E−02
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)5d^*$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1061.74*	*195.756*	*94381*	9	9	4.87E+06	8.23E−04
			1066.01	573.640	94381	1	3	1.60E+06	8.20E−04
			1064.00	396.055	94381	3	3	1.21E+06	2.05E−04
			1064.00	396.055	94381	3	5	1.21E+06	3.42E−04
			1064.00	396.055	94381	3	1	4.84E+06	2.74E−04
			1059.54	0	94381	5	5	3.68E+06	6.19E−04
			1059.54	0	94381	5	3	2.04E+06	2.06E−04
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)3d^*$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1061.37*	*195.756*	*94414*	9	9	1.10E+08	1.86E−02
			1065.64	573.640	94414	1	3	3.62E+07	1.85E−02
			1063.63	396.055	94414	3	3	2.74E+07	4.65E−03
			1063.63	396.055	94414	3	5	2.75E+07	7.76E−03
			1063.63	396.055	94414	3	1	1.10E+08	6.20E−03
			1059.16	0	94414	5	5	8.32E+07	1.40E−02
			1059.16	0	94414	5	3	4.63E+07	4.67E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)6d^*$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1052.61*	*195.756*	*95198*	9	9	1.73E+08	2.87E−02
			1056.91	573.640	95189	1	3	5.69E+07	2.86E−02
			1055.02?	396.055	95181?	3	1	1.72E+08	9.54E−03
			1054.93	396.055	95189	3	3	4.29E+07	7.16E−03
			1054.74	396.055	95206	3	5	4.28E+07	1.19E−02
			1050.54	0	95189	5	3	7.25E+07	7.20E−03
			1050.35	0	95206	5	5	1.30E+08	2.15E−02
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)5s^*$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1047.90*	*195.756*	*95625*	9	9	1.01E+08	1.66E−02
			1052.06	573.640	95625	1	3	3.31E+07	1.65E−02
			1050.10	396.055	95625	3	3	2.51E+07	4.15E−03
			1050.10	396.055	95625	3	5	2.51E+07	6.92E−03
			1050.10	396.055	95625	3	1	1.00E+08	5.53E−03
			1045.75	0	95625	5	5	7.62E+07	1.25E−02
			1045.75	0	95625	5	3	4.24E+07	4.17E−03
S I	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)7d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*1040.41*	*195.756*	*96312*	9	9	1.77E+07	2.88E−03
			1044.51	573.640	96312	1	3	5.85E+06	2.87E−03
			1042.58	396.055	96312	3	3	4.41E+06	7.18E−04
			1042.58	396.055	96312	3	5	4.42E+06	1.20E−03
			1042.58	396.055	96312	3	1	1.76E+07	9.57E−04
			1038.29	0	96312	5	5	1.34E+07	2.16E−03
			1038.29	0	96312	5	3	7.45E+06	7.22E−04
S II	$3s^2 3p^3 - 3s3p^4$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*1256.117*	0	*79610.41*	4	12	4.37E+07	3.10E−02
			1259.519	0	79395.39	4	6	4.34E+07	1.55E−02
			1253.811	0	79756.83	4	4	4.37E+07	1.03E−02
			1250.584	0	79962.61	4	2	4.44E+07	5.20E−03
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*909.0500*	0	*110004.94*	4	12	1.00E+09	3.73E−01
			912.7361	0	109560.69	4	2	9.94E+08	6.21E−02
			910.4849	0	109831.59	4	4	9.98E+08	1.24E−01
			906.8765	0	110268.60	4	6	1.01E+09	1.87E−01
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*764.9224*	0	*130732.21*	4	12	9.04E+09	2.38E+00
			765.6838	0	130602.21	4	6	9.03E+09	1.19E+00
			764.4158	0	130818.85	4	4	9.07E+09	7.95E−01
			763.6564	0	130948.94	4	2	9.10E+09	3.98E−01
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})5s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*663.4890*	0	*150718.39*	4	12	2.79E+08	5.52E−02
			665.5197	0	150258.51	4	2	2.76E+08	9.18E−03
			664.3136	0	150531.31	4	4	2.78E+08	1.84E−02
			662.2674	0	150996.41	4	6	2.81E+08	2.77E−02
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*641.2560*	0	*155943.95*	4	12	2.81E+09	5.20E−01
			641.7715	0	155818.71	4	6	2.81E+09	2.60E−01
			640.9043	0	156029.54	4	4	2.83E+09	1.74E−01
			640.4161	0	156148.48	4	2	2.82E+09	8.68E−02
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})6s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*601.7201*	0	*166190.23*	4	12	9.40E+07	1.53E−02
			603.4303	0	165719.23	4	2	9.34E+07	2.55E−03
			602.4410	0	165991.35	4	4	9.37E+07	5.10E−03
			600.6734	0	166479.82	4	6	9.46E+07	7.68E−03
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})5d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*594.0962*	0	*168322.92*	4	12	1.05E+09	1.66E−01
			594.4699	0	168217.10	4	6	1.04E+09	8.28E−02
			593.8317	0	168397.89	4	4	1.04E+09	5.52E−02
			593.5055	0	168490.43	4	2	1.05E+09	2.76E−02
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})7s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*575.3725*	0	*173800.44*	4	12	4.93E+07	7.34E−03
			576.9780	0	173316.83	4	2	4.89E+07	1.22E−03
			576.0509	0	173595.77	4	4	4.90E+07	2.44E−03
			574.3888	0	174098.10	4	6	4.96E+07	3.68E−03
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})6d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*571.5367*	0	*174966.89*	4	12	4.91E+08	7.21E−02
			571.7790	0	174892.75	4	6	4.90E+08	3.60E−02
			571.3640	0	175019.78	4	4	4.90E+08	2.40E−02
			571.1560	0	175083.51	4	2	4.91E+08	1.20E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S II	$3s^2 3p^3 - 3p^2(^3\mathrm{P})7d$	$^4\mathrm{S}^\circ - ^4\mathrm{P}$	*558.9993*	0	*178891.10*	4	12	2.66E+08	3.74E−02
			559.1310	0	178848.96	4	6	2.66E+08	1.87E−02
			558.9240	0	178915.20	4	4	2.67E+08	1.25E−02
			558.7550	0	178969.32	4	2	2.67E+08	6.24E−03
S III	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*1197.56*	*562.39*	*84065.8*	9	15	7.00E+07	2.51E−02
			1202.12	833.08	84019.3	5	3	1.92E+06	2.50E−04
			1201.73	833.08	84046.7	5	5	1.73E+07	3.75E−03
			1200.97	833.08	84099.4	5	7	6.94E+07	2.10E−02
			1194.45	298.69	84019.3	3	3	2.94E+07	6.29E−03
			1194.06	298.69	84046.7	3	5	5.31E+07	1.89E−02
			1190.20	0	84019.3	1	3	3.97E+07	2.53E−02
S III	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*1018.405*	*562.39*	*98755.2*	9	9	2.71E+08	4.22E−02
			1021.323	833.08	98745.3	5	5	2.02E+08	3.16E−02
			1021.108	833.08	98765.9	5	3	1.13E+08	1.06E−02
			1015.779	298.69	98745.3	3	5	6.83E+07	1.76E−02
			1015.567	298.69	98765.9	3	3	6.86E+07	1.06E−02
			1015.502	298.69	98772.2	3	1	2.74E+08	1.41E−02
			1012.495	0	98765.9	1	3	9.22E+07	4.25E−02
S III	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*727.2504*	*562.39*	138066.6	9	3	1.32E+10	3.50E−01
			728.6849	833.08	138066.6	5	3	7.33E+09	3.50E−01
			725.8584	298.69	138066.6	3	3	4.44E+09	3.51E−01
			724.2881	0	138066.6	1	3	1.49E+09	3.52E−01
S III	$3s^2 3p^2 - 3s^2 3p4s$:*	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*701.4731*	*562.39*	*143119.52*	9	9	1.06E+10	7.80E−01
			702.8181	833.08	143117.41	5	3	4.39E+09	1.95E−01
			702.7792	833.08	143125.28	5	5	7.89E+09	5.84E−01
			700.2880	298.69	143097.08	3	1	1.06E+10	2.60E−01
			700.1883	298.69	143117.41	3	3	2.65E+09	1.95E−01
			700.1497	298.69	143125.28	3	5	2.66E+09	3.26E−01
			698.7270	0	143117.41	1	3	3.57E+09	7.83E−01
S III	$3s^2 3p^2 - 3s^2 3p3d$:*	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*683.0684*	*562.39*	*146960.62*	9	9	9.74E+08	6.81E−02
			685.3800	833.08	146737.55	5	3	4.00E+08	1.69E−02
			683.4615	833.08	147147.11	5	5	7.30E+08	5.11E−02
			683.0663	298.69	146697.37	3	1	9.74E+08	2.27E−02
			682.8788	298.69	146737.55	3	3	2.43E+08	1.70E−02
			681.4888	0	146737.55	1	3	3.27E+08	6.83E−02
			680.9743	298.69	147147.11	3	5	2.46E+08	2.85E−02
S III	$3s^2 3p^2 - 3s^2 3p3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*679.6864*	*562.39*	*147689.05*	9	15	1.42E+10	1.64E+00
			681.5772	833.08	147551.60	5	3	3.90E+08	1.63E−02
			680.9246	833.08	147692.21	5	5	3.52E+09	2.45E−01
			680.6767	833.08	147745.70	5	7	1.41E+10	1.37E+00
			679.1037	298.69	147551.60	3	3	5.92E+09	4.09E−01
			678.4559	298.69	147692.21	3	5	1.07E+10	1.23E+00
			677.7290	0	147551.60	1	3	7.94E+09	1.64E+00
S III	$3s^2 3p^2 - 3s^2 3p4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*484.9755*	*562.39*	*206758.35*	9	15	9.82E+08	5.77E−02
			486.1276	833.08	206540.39	5	3	2.71E+07	5.76E−04
			485.8142	833.08	206673.11	5	5	2.44E+08	8.65E−03
			485.2495	833.08	206912.65	5	7	9.81E+08	4.85E−02
			484.8680	298.69	206540.39	3	3	4.09E+08	1.44E−02
			484.5562	298.69	206673.11	3	5	7.40E+08	4.34E−02
			484.1668	0	206540.39	1	3	5.48E+08	5.78E−02
S III	$3s^2 3p^2 - 3s^2 3p4d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*482.0748*	*562.39*	*207999.06*	9	9	5.11E+08	1.78E−02
			482.9520	833.08	207892.98	5	5	3.80E+08	1.33E−02
			482.4583	833.08	208104.89	5	3	2.13E+08	4.45E−03
			481.7088	298.69	207892.98	3	5	1.28E+08	7.42E−03
			481.2176	298.69	208104.89	3	3	1.28E+08	4.46E−03
			480.9698	298.69	208211.96	3	1	5.15E+08	5.95E−03
			480.5269	0	208104.89	1	3	1.72E+08	1.79E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S III	$3s^2 3p^2 - 3s^2 3p5s$	^{3}P$-^3$P^o	*476.6970*	*562.39*	*210339.27*	9	9	7.90E+08	2.69E−02
			478.2530	833.08	209927.43	5	3	3.27E+08	6.72E−03
			477.3812	298.69	209774.91	3	1	7.88E+08	8.98E−03
			477.0338	298.69	209927.43	3	3	1.98E+08	6.74E−03
			476.4942	833.08	210699.24	5	5	5.93E+08	2.02E−02
			476.3551	0	209927.43	1	3	2.65E+08	2.70E−02
			475.2839	298.69	210699.24	3	5	2.00E+08	1.13E−02
S IV	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$D	*1069.551*	*634.29*	*94131.5*	6	10	1.69E+08	4.84E−02
			1073.518	951.43	94103.1	4	4	2.80E+07	4.83E−03
			1072.973	951.43	94150.4	4	6	1.68E+08	4.34E−02
			1062.664	0	94103.1	2	4	1.44E+08	4.87E−02
S IV	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$S	*813.8351*	*634.29*	123509.3	6	2	3.11E+09	1.03E−01
			815.9411	951.43	123509.3	4	2	2.06E+09	1.03E−01
			809.6556	0	123509.3	2	2	1.06E+09	1.04E−01
S IV	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$P	*749.6111*	*634.29*	*134036.8*	6	6	8.89E+09	7.49E−01
			753.7603	951.43	133619.6	4	2	2.91E+09	1.24E−01
			750.2215	951.43	134245.4	4	4	7.39E+09	6.24E−01
			748.3932	0	133619.6	2	2	5.95E+09	5.00E−01
			744.9045	0	134245.4	2	4	1.51E+09	2.51E−01
S IV	$3s^2 3p - 3s^2 3d$	^{2}P$^o-^2$D	*660.0352*	*634.29*	*152141.4*	6	10	1.07E+10	1.17E+00
			661.4554	951.43	152133.2	4	4	1.78E+09	1.17E−01
			661.3959	951.43	152146.8	4	6	1.08E+10	1.06E+00
			657.3187	0	152133.2	2	4	9.11E+09	1.18E+00
S IV	$3s^2 3p - 3s^2 4s$	^{2}P$^o-^2$S	*553.0551*	*634.29*	181448.1	6	2	5.67E+09	8.66E−02
			554.0268	951.43	181448.1	4	2	3.76E+09	8.65E−02
			551.1218	0	181448.1	2	2	1.91E+09	8.69E−02
S IV	$3s^2 3p - 3s^2 4d$	^{2}P$^o-^2$D	*392.5198*	*634.29*	*255398.5*	6	10	1.33E+06	5.13E−05
			393.0132	951.43	255395.8	4	4	2.22E+05	5.13E−06
			393.0063	951.43	255400.3	4	6	1.33E+06	4.62E−05
			391.5491	0	255395.8	2	4	1.12E+06	5.15E−05
S IV	$3s^2 3p - 3s^2 5s$	^{2}P$^o-^2$S	*369.8408*	*634.29*	271020.9	6	2	2.33E+09	1.59E−02
			370.2751	951.43	271020.9	4	2	1.56E+09	1.60E−02
			368.9752	0	271020.9	2	2	7.79E+08	1.59E−02
S IV	$3s^2 3p - 3s3p(^3\mathrm{P}^o)4p$	^{2}P$^o-^2$P	*342.2883*	*634.29*	*292785.7*	6	6	7.91E+08	1.39E−02
			342.9146	951.43	292569.2	4	2	2.62E+08	2.31E−03
			342.5332	951.43	292893.9	4	4	6.59E+08	1.16E−02
			341.7995	0	292569.2	2	2	5.29E+08	9.27E−03
			341.4206	0	292893.9	2	4	1.33E+08	4.64E−03
S IV	$3s^2 3p - 3s^2 5d^*$	^{2}P$^o-^2$D	*332.4960*	*634.29*	*301389.8*	6	10	5.43E+07	1.50E−03
			333.1575	951.43	301109.8	4	4	8.95E+06	1.49E−04
			332.6404	951.43	301576.4	4	6	5.43E+07	1.35E−03
			332.1048	0	301109.8	2	4	4.54E+07	1.50E−03
S IV	$3s^2 3p - 3s3p(^3\mathrm{P}^o)4p^*$	^{2}P$^o-^2$D	*330.2631*	*634.29*	*303423.2*	6	10	7.15E+08	1.95E−02
			330.7027	951.43	303337.8	4	4	1.19E+08	1.95E−03
			330.5472	951.43	303480.1	4	6	7.16E+08	1.76E−02
			329.6655	0	303337.8	2	4	5.98E+08	1.95E−02
S IV	$3s^2 3p - 3s3p(^3\mathrm{P}^o)4p$	^{2}P$^o-^2$S	*324.5419*	*634.29*	308760.9	6	2	6.06E+06	3.19E−05
			324.8763	951.43	308760.9	4	2	4.02E+06	3.18E−05
			323.8752	0	308760.9	2	2	2.03E+06	3.19E−05
S IV	$3s^2 3p - 3s^2 6s$	^{2}P$^o-^2$S	*321.6817*	*634.29*	311500.6	6	2	1.72E+09	8.87E−03
			322.0102	951.43	311500.6	4	2	1.14E+09	8.86E−03
			321.0267	0	311500.6	2	2	5.75E+08	8.89E−03
S IV	$3s^2 3p - 3s^2 7s$	^{2}P$^o-^2$S	*300.9046*	*634.29*	332965.5	6	2	7.54E+08	3.41E−03
			301.1921	951.43	332965.5	4	2	5.00E+08	3.40E−03
			300.3314	0	332965.5	2	2	2.52E+08	3.41E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S IV	$3s^2 3p - 3s3p(^1\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*295.5935*	*634.29*	*338936.7*	6	10	4.07E+08	8.89E−03
			295.9178	951.43	338883.1	4	4	6.76E+07	8.88E−04
			295.8396	951.43	338972.4	4	6	4.06E+08	7.99E−03
			295.0870	0	338883.1	2	4	3.41E+08	8.90E−03
S IV	$3s^2 3p - 3s3p(^1\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*294.7209*	*634.29*	*339938.3*	6	6	2.23E+08	2.91E−03
			295.1051	951.43	339813.7	4	2	7.40E+07	4.83E−04
			294.9425	951.43	340000.6	4	4	1.86E+08	2.42E−03
			294.2789	0	339813.7	2	2	1.49E+08	1.93E−03
			294.1171	0	340000.6	2	4	3.74E+07	9.70E−04
S IV	$3s^2 3p - 3s3p(^1\mathrm{P}^o)4p$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*291.3822*	*634.29*	343826.2	6	2	4.88E+08	2.07E−03
			291.6517	951.43	343826.2	4	2	3.23E+08	2.06E−03
			290.8446	0	343826.2	2	2	1.63E+08	2.07E−03
S IV	$3s^2 3p - 3s3p(^3\mathrm{P}^o)5p$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*274.0950*	*634.29*	*365471.3*	6	6	7.27E+08	8.19E−03
			274.5053	951.43	365243.1	4	2	2.43E+08	1.37E−03
			274.2476	951.43	365585.4	4	4	6.05E+08	6.82E−03
			273.7903	0	365243.1	2	2	4.87E+08	5.47E−03
			273.5339	0	365585.4	2	4	1.22E+08	2.73E−03
S V	$3s^2 - 3s3p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	786.4683	0	127150.7	1	3	5.10E+09	1.42E+00
S V	$3s^2 - 3s4p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	286.0949	0	349534.4	1	3	2.67E+09	9.83E−02
S V	$3s^2 - 3p4s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	235.5568	0	424526.0	1	3	3.15E+08	7.87E−03
S V	$3s^2 - 3s5p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	223.2512	0	447925.9	1	3	1.37E+09	3.08E−02
S V	$3s^2 - 3s6p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	202.9608	0	492706.0	1	3	1.08E+09	2.01E−02
S V	$3s^2 - 3s7p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	192.555	0	519332	1	3	6.72E+08	1.12E−02
S V	$3s^2 - 3s8p$	$^1\mathrm{S} - ^1\mathrm{P}^o$	187.024	0	534691	1	3	4.34E+08	6.82E−03
S VI	$2p^6 3s - 2p^6 3p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*937.064*	0	*106716.3*	2	6	1.68E+09	6.65E−01
			944.523	0	105873.6	2	2	1.64E+09	2.20E−01
			933.378	0	107137.7	2	4	1.70E+09	4.45E−01
S VI	$2p^6 3s - 2p^6 4p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*249.0818*	0	*401474.5*	2	6	2.94E+09	8.21E−02
			249.2714	0	401169.2	2	2	2.94E+09	2.74E−02
			248.9872	0	401627.1	2	4	2.94E+09	5.47E−02
S VI	$2p^6 3s - 2p^6 5p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*191.5063*	0	*522176.0*	2	6	1.90E+09	3.14E−02
			191.5602	0	522029.1	2	2	1.91E+09	1.05E−02
			191.4794	0	522249.5	2	4	1.90E+09	2.09E−02
S VI	$2p^6 3s - 2p^6 6p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*171.3405*	0	*583633.2*	2	6	1.17E+09	1.55E−02
			171.3645	0	583551.3	2	2	1.17E+09	5.15E−03
			171.3285	0	583674.1	2	4	1.17E+09	1.03E−02
S VI	$2p^6 3s - 2p^6 7p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*161.5005*	0	*619193.2*	2	6	7.50E+08	8.80E−03
			161.5136	0	619142.9	2	2	7.52E+08	2.94E−03
			161.4939	0	619218.4	2	4	7.51E+08	5.87E−03
S VI	$2p^6 3s - 2p^6 8p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*155.857*	0	*641614*	2	6	5.06E+08	5.53E−03
			155.865	0	[641580]	2	2	5.05E+08	1.84E−03
			155.853	0	[641631]	2	4	5.07E+08	3.69E−03
S VI	$2p^6 3s - 2p^6 9p$	$^2\mathrm{S} - ^2\mathrm{P}^o$	*152.285*	0	*656664*	2	6	3.56E+08	3.71E−03
			152.290	0	[656641]	2	2	3.57E+08	1.24E−03
			152.282	0	[656675]	2	4	3.55E+08	2.47E−03
S VII	$2s^2 2p^6 - 2p^5 3s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	72.0285	0	1388339	1	3	1.04E+11	2.43E−01
S VII	$2s^2 2p^6 - 2p^5 3d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	60.1614	0	1662194	1	3	9.83E+11	1.60E+00
S VII	$2s^2 2p^6 - 2p^5 4s$	$^1\mathrm{S} - ^1\mathrm{P}^o$	54.6520	0	1829760	1	3	3.30E+10	4.43E−02
S VII	$2s^2 2p^6 - 2p^5 4d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	51.8070	0	1930240	1	3	5.04E+11	6.08E−01
S VII	$2s^2 2p^6 - 2p^5 5d$	$^1\mathrm{S} - ^1\mathrm{P}^o$	48.6469	0	2055630	1	3	2.07E+11	2.20E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S VII	$2s^2 2p^6 - 2p^5 6d$	^{1}S$-^1$P^o	47.0981	0	2123230	1	3	1.34E+11	1.34E−01
S VII	$2s^2 2p^6 - 2p^5 7d$	^{1}S$-^1$P^o	46.2120	0	2163940	1	3	8.69E+10	8.35E−02
S VIII	$2s^2 2p^5 - 2s 2p^6$	^{2}P$^o-^2$S	*199.883*	*3362*	503655	6	2	3.64E+10	7.26E−02
			202.606	10085	503655	2	2	1.16E+10	7.16E−02
			198.549	0	503655	4	2	2.47E+10	7.31E−02
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3s$	^{2}P$^o-^2$P	*63.3475*	*3362*	*1581956*	6	6	1.88E+11	1.13E−01
			63.7131	10085	1579622	2	4	3.06E+10	3.72E−02
			63.4300	10085	1586625	2	2	1.24E+11	7.47E−02
			63.3063	0	1579622	4	4	1.56E+11	9.36E−02
			63.0269	0	1586625	4	2	6.28E+10	1.87E−02
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3s$	^{2}P$^o-^2$D	*61.7248*	*3362*	*1623457*	6	10	7.26E+10	6.91E−02
			61.9785	10085	1623547	2	4	5.97E+10	6.88E−02
			61.5992	0	1623397	4	6	7.31E+10	6.24E−02
			61.5935	0	1623547	4	4	1.22E+10	6.93E−03
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	^{2}P$^o-^2$S	*59.3546*	*3362*	1688150	6	2	7.38E+10	1.30E−02
			59.5924	10085	1688150	2	2	2.42E+10	1.29E−02
			59.2364	0	1688150	4	2	4.94E+10	1.30E−02
S VIII	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^o)3p$	^{2}P$^o-^2$S	*58.9528*	*3362*	1699634	6	2	1.36E+11	2.36E−02
			59.1874	10085	1699634	2	2	4.47E+10	2.35E−02
			58.8362	0	1699634	4	2	9.13E+10	2.37E−02
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P$^o-^2$D	*54.2776*	*3362*	*1845742*	6	10	5.80E+11	4.27E−01
			54.5653	10085	1842752	2	4	4.76E+11	4.25E−01
			54.2667	0	1842752	4	4	9.67E+10	4.27E−02
			54.1203	0	1847735	4	6	5.84E+11	3.85E−01
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P$^o-^2$P	*54.2724*	*3362*	*1845918*	6	6	1.49E+11	6.59E−02
			54.6427	10085	1840155	2	2	9.76E+10	4.37E−02
			54.3858	10085	1848800	2	4	2.47E+10	2.19E−02
			54.3432	0	1840155	4	2	4.97E+10	1.10E−02
			54.0891	0	1848800	4	4	1.26E+11	5.52E−02
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	^{2}P$^o-^2$S	*53.0497*	*3362*	1888386	6	2	1.04E+12	1.46E−01
			53.2396	10085	1888386	2	2	3.44E+11	1.46E−01
			52.9553	0	1888386	4	2	6.95E+11	1.46E−01
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	^{2}P$^o-^2$P	*52.8543*	*3362*	*1895354*	6	6	1.12E+12	4.67E−01
			53.0721	10085	1894315	2	4	1.84E+11	1.55E−01
			52.9844	10085	1897432	2	2	7.37E+11	3.10E−01
			52.7895	0	1894315	4	4	9.33E+11	3.90E−01
			52.7028	0	1897432	4	2	3.75E+11	7.81E−02
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	^{2}P$^o-^2$D	*52.8196*	*3362*	*1896600*	6	10	7.89E+11	5.50E−01
			52.9620	10085	1898233	2	4	6.53E+11	5.49E−01
			52.7562	0	1895511	4	6	7.92E+11	4.96E−01
			52.6806	0	1898233	4	4	1.33E+11	5.52E−02
S VIII	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	^{2}P$^o-^2$D	*51.3056*	*3362*	*1952466*	6	10	1.76E+11	1.16E−01
			51.4690	10085	1953002	2	4	1.46E+11	1.16E−01
			51.2267	0	1952108	4	6	1.76E+11	1.04E−01
			51.2032	0	1953002	4	4	2.95E+10	1.16E−02
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	^{2}P$^o-^2$P	*47.5951*	*3362*	*2104420*	6	6	9.27E+10	3.15E−02
			47.7479	10085	2104420	2	4	1.54E+10	1.05E−02
			47.5190	0	2104420	4	4	7.80E+10	2.64E−02
				10085		2	2	6.18E+10	2.10E−02
				0		4	2	3.09E+10	5.25E−03
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	^{2}P$^o-^2$D	*45.3845*	*3362*	*2206760*	6	10	3.50E+11	1.80E−01
			45.5785	10085	2204100	2	4	2.87E+11	1.79E−01
			45.3700	0	2204100	4	4	5.83E+10	1.80E−02
			45.2790	0	2208530	4	6	3.54E+11	1.63E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S VIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*45.3636*	*3362*	*2207770*	6	6	1.68E+11	5.19E−02
			45.5024	10085	2207770	2	4	2.79E+10	1.73E−02
			45.2946	0	2207770	4	4	1.41E+11	4.34E−02
				10085		2	2	1.12E+11	3.46E−02
				0		4	2	5.60E+10	8.64E−03
S IX	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*224.876*	*3845*	*448534*	9	9	1.66E+10	1.26E−01
			228.832	7985	444987	3	5	3.97E+09	5.19E−02
			226.579	10648	451995	1	3	5.41E+09	1.25E−01
			225.220	7985	451995	3	3	4.16E+09	3.16E−02
			224.726	0	444987	5	5	1.25E+10	9.50E−02
			223.262	7985	455890	3	1	1.71E+10	4.25E−02
			221.241	0	451995	5	3	7.29E+09	3.21E−02
S IX	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*56.2017*	*3845*	1783150	9	3	2.88E+11	4.54E−02
			56.4174	10648	1783150	1	3	3.16E+10	4.52E−02
			56.3328	7985	1783150	3	3	9.52E+10	4.53E−02
			56.0805	0	1783150	5	3	1.61E+11	4.55E−02
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*54.3003*	*3845*	*1845460*	9	15	9.28E+10	6.84E−02
			54.5161	10648	1844970	1	3	5.10E+10	6.82E−02
			54.4370	7985	1844970	3	3	3.85E+10	1.71E−02
			54.4311	7985	1845170	3	5	6.92E+10	5.12E−02
			54.2014	0	1844970	5	3	2.59E+09	6.85E−04
			54.1955	0	1845170	5	5	2.34E+10	1.03E−02
			54.1750	0	1845870	5	7	9.35E+10	5.76E−02
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*52.9665*	*3845*	*1891830*	9	9	9.20E+10	3.87E−02
			53.0829	7985	1891830	3	5	2.29E+10	1.61E−02
			52.8589	0	1891830	5	5	6.95E+10	2.91E−02
				7985		3	3	2.30E+10	9.69E−03
				0		5	3	3.84E+10	9.70E−03
				7985		3	1	9.20E+10	1.29E−02
				10648		1	3	3.07E+10	3.88E−02
S IX	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*49.2197*	*3845*	*2035550*	9	15	4.41E+11	2.67E−01
			49.3900	10648	2035350	1	3	2.42E+11	2.66E−01
			49.3280	7985	2035230	3	5	3.29E+11	2.00E−01
			49.3251	7985	2035350	3	3	1.83E+11	6.66E−02
			49.1345	0	2035230	5	5	1.11E+11	4.01E−02
			49.1316	0	2035350	5	3	1.23E+10	2.67E−03
			49.1190	0	2035870	5	7	4.42E+11	2.24E−01
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*47.5336*	*3845*	*2107620*	9	15	7.94E+11	4.48E−01
			47.7399	10648	2105330	1	3	4.35E+11	4.46E−01
			47.6793	7985	2105330	3	3	3.29E+11	1.12E−01
			47.6160	7985	2108120	3	5	5.91E+11	3.35E−01
			47.4985	0	2105330	5	3	2.21E+10	4.48E−03
			47.4356	0	2108120	5	5	1.99E+11	6.73E−02
			47.4329?	0	2108240?	5	7	7.98E+11	3.77E−01
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*47.3107*	*3845*	*2117530*	9	9	1.31E+12	4.38E−01
			47.4279	7985	2116450	3	5	3.24E+11	1.82E−01
			47.4230	10648	2119330	1	3	4.32E+11	4.37E−01
			47.3632	7985	2119330	3	3	3.24E+11	1.09E−01
			47.2489	0	2116450	5	5	9.80E+11	3.28E−01
			47.1847	0	2119330	5	3	5.44E+11	1.09E−01
				7985		3	1	1.31E+12	1.46E−01
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*47.1323*	*3845*	2125530	9	3	1.33E+12	1.48E−01
			47.2840	10648	2125530	1	3	1.46E+11	1.47E−01
			47.2245	7985	2125530	3	3	4.43E+11	1.48E−01
			47.0471	0	2125530	5	3	7.43E+11	1.48E−01
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*46.691*	*3845*	*2145580*	9	9	1.50E+11	4.89E−02
			46.857	10648	2144800	1	3	4.93E+10	4.87E−02
			46.8429	7985	2142780	3	1	1.48E+11	1.62E−02
			46.799	7985	2144800	3	3	3.72E+10	1.22E−02
			46.759	7985	2146600	3	5	3.73E+10	2.04E−02
			46.624	0	2144800	5	3	6.24E+10	1.22E−02
			46.585	0	2146600	5	5	1.13E+11	3.68E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*46.4698*	*3845*	*2155780*	9	15	7.47E+11	4.03E−01
			46.6067	10648	2156260	1	3	4.11E+11	4.02E−01
			46.5854	7985	2154580	3	5	5.57E+11	3.02E−01
			46.5490	7985	2156260	3	3	3.11E+11	1.01E−01
			46.4128	0	2154580	5	5	1.88E+11	6.06E−02
			46.3766	0	2156260	5	3	2.09E+10	4.04E−03
			46.3729	0	2156430	5	7	7.53E+11	3.40E−01
S IX	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)4d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*40.2331*	*3845*	*2489360*	9	15	3.14E+11	1.27E−01
			40.1710	0	2489360	5	7	3.13E+11	1.06E−01
				7985		3	5	2.35E+11	9.50E−02
				10648		1	3	1.74E+11	1.27E−01
				0		5	5	7.83E+10	1.90E−02
				7985		3	3	1.31E+11	3.17E−02
				0		5	3	8.72E+09	1.27E−03
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)4d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*39.0245*	*3845*	*2566340*	9	15	1.99E+11	7.56E−02
			38.9660	0	2566340	5	7	2.00E+11	6.36E−02
				7985		3	5	1.49E+11	5.67E−02
				10648		1	3	1.10E+11	7.55E−02
				0		5	5	4.95E+10	1.13E−02
				7985		3	3	8.28E+10	1.89E−02
				0		5	3	5.52E+09	7.56E−04
S IX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)4d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*38.9403*	*3845*	*2571880*	9	9	3.90E+11	8.87E−02
			39.0032	7985	2571880	3	5	9.71E+10	3.69E−02
			38.8821	0	2571880	5	5	2.94E+11	6.66E−02
				7985		3	3	9.72E+10	2.21E−02
				0		5	3	1.62E+11	2.21E−02
				7985		3	1	3.89E+11	2.95E−02
				10648		1	3	1.30E+11	8.85E−02
S X	$2s^2 2p^3 - 2s2p^4$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*261.440*	0	*382497*	4	12	5.17E+09	1.59E−01
			264.230	0	378458	4	6	5.01E+09	7.86E−02
			259.496	0	385362	4	4	5.29E+09	5.34E−02
			257.147	0	388883	4	2	5.43E+09	2.69E−02
S X	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*47.7419*	0	*2094600*	4	12	1.12E+11	1.15E−01
			47.9051	0	2087460	4	2	1.10E+11	1.90E−02
			47.7920	0	2092400	4	4	1.11E+11	3.80E−02
			47.6544	0	2098440	4	6	1.12E+11	5.72E−02
S X	$2s^2 2p^3 - 2p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*42.5173*	0	*2351980*	4	12	2.04E+12	1.66E+00
			42.5431	0	2350560	4	6	2.03E+12	8.27E−01
			42.4950	0	2353220	4	4	2.04E+12	5.52E−01
			42.4850	0	2353770	4	2	2.04E+12	2.76E−01
S X	$2s^2 2p^3 - 2p^3(^5\mathrm{S}^o)3p$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*41.3570*	0	*2417970*	4	12	2.73E+11	2.10E−01
			41.3570?	0	2417970?	4	6	2.76E+11	1.06E−01
				0		4	4	2.72E+11	6.98E−02
				0		4	2	2.72E+11	3.49E−02
S X	$2s^2 2p^3 - 2p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*34.3100*	0	*2914600*	4	12	7.12E+11	3.77E−01
			34.310?	0	2914600?	4	6	7.14E+11	1.89E−01
				0		4	4	7.14E+11	1.26E−01
				0		4	2	7.13E+11	6.29E−02
S XI	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*288.481*	*8618.3*	*355261*	9	15	2.97E+09	6.18E−02
			291.811	12388.1	355076	5	5	7.17E+08	9.16E−03
			291.578	12388.1	355350	5	7	2.87E+09	5.13E−02
			291.566	12388.1	355364	5	3	7.99E+07	6.11E−04
			285.822	5208.0	355076	3	5	2.29E+09	4.68E−02
			285.587	5208.0	355364	3	3	1.28E+09	1.56E−02
			281.402	0	355364	1	3	1.78E+09	6.33E−02
S XI	$2s^2 2p^2 - 2s2p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*244.736*	*8618.3*	*417222*	9	9	7.70E+09	6.91E−02
			247.159	12388.1	416986	5	3	3.11E+09	1.71E−02
			246.895	12388.1	417419	5	5	5.62E+09	5.14E−02
			242.872	5208.0	416947	3	1	7.87E+09	2.32E−02
			242.849	5208.0	416986	3	3	1.97E+09	1.74E−02
			242.594	5208.0	417419	3	5	1.98E+09	2.91E−02
			239.816	0	416986	1	3	2.73E+09	7.05E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S XI	$2s^22p^2-2s2p^3$	^{3}P–^{3}S^o	*189.90*	*8618.3*	535220	9	3	4.50E+10	8.11E−02
			191.27	12388.1	535220	5	3	2.45E+10	8.05E−02
			188.67	5208.0	535220	3	3	1.53E+10	8.16E−02
			186.84	0	535220	1	3	5.25E+09	8.24E−02
S XI	$2s^22p^2-2s^22p3s$	^{3}P–^{3}P^o	*43.1301*	*8618.3*	*2327185*	9	9	2.27E+11	6.34E−02
			43.3300	12388.1	2320260	5	3	9.36E+10	1.58E−02
			43.1956	5208.0	2320260	3	3	5.68E+10	1.59E−02
			43.1229	12388.1	2331340	5	5	1.71E+11	4.76E−02
			43.0986	0	2320260	1	3	7.59E+10	6.34E−02
			42.9898	5208.0	2331340	3	5	5.74E+10	2.65E−02
				5208.0		3	1	2.27E+11	2.11E−02
S XI	$2s^22p^2-2s^22p3d$	^{3}P–^{3}D^o	*39.3157*	*8618.3*	*2552130*	9	15	2.27E+12	8.78E−01
			39.4317	12388.1	2548420	5	3	6.26E+10	8.75E−03
			39.4112	12388.1	2549740	5	5	5.63E+11	1.31E−01
			39.3230	12388.1	2555430	5	7	2.27E+12	7.37E−01
			39.3204	5208.0	2548420	3	3	9.45E+11	2.19E−01
			39.3000	5208.0	2549740	3	5	1.70E+12	6.58E−01
			39.2400	0	2548420	1	3	1.27E+12	8.80E−01
S XI	$2s^22p^2-2s^22p3d$	^{3}P–^{3}P^o	*39.175*	*8618.3*	*2561290*	9	9	1.26E+12	2.91E−01
			39.2400	12388.1	2560810	5	5	9.44E+11	2.18E−01
			39.220	12388.1	2562100	5	3	5.25E+11	7.26E−02
			39.1297	5208.0	2560810	3	5	3.16E+11	1.21E−01
			39.110	5208.0	2562100	3	3	3.17E+11	7.28E−02
			39.030	0	2562100	1	3	4.26E+11	2.92E−01
				5208.0		3	1	1.26E+12	9.67E−02
S XI	$2s^22p^2-2s2p^2(^4\mathrm{P})3p$	^{3}P–^{3}D^o	*37.719*	*8618.3*	*2659800*	9	15	5.04E+11	1.79E−01
			37.773	12388.1	2659800	5	7	5.01E+11	1.50E−01
				5208.0		3	5	3.74E+11	1.33E−01
				0		1	3	2.78E+11	1.78E−01
				12388.1		5	5	1.25E+11	2.67E−02
				5208.0		3	3	2.08E+11	4.44E−02
				12388.1		5	3	1.39E+10	1.78E−03
S XI	$2s^22p^2-2s^22p4d$	^{3}P–^{3}D^o	*31.018*	*8618.3*	*3232600*	9	15	8.19E+11	1.97E−01
			31.054?	12388.1	3232600?	5	7	8.15E+11	1.65E−01
				5208.0		3	5	6.11E+11	1.47E−01
				0		1	3	4.53E+11	1.96E−01
				12388.1		5	5	2.03E+11	2.93E−02
				5208.0		3	3	3.39E+11	4.89E−02
				12388.1		5	3	2.26E+10	1.96E−03
S XII	$2s^22p-2s2p^2$	^{2}P^o–^{2}D	*295.748*	*8756.9*	*346883*	6	10	2.63E+09	5.74E−02
			299.792	13135.3	346700	4	4	4.20E+08	5.66E−03
			299.518	13135.3	347005	4	6	2.53E+09	5.10E−02
			288.434	0	346700	2	4	2.36E+09	5.89E−02
S XII	$2s^22p-2s2p^2$	^{2}P^o–^{2}S	*232.11*	*8756.9*	439580	6	2	1.11E+10	2.98E−02
			234.50	13135.3	439580	4	2	7.16E+09	2.95E−02
			227.49	0	439580	2	2	3.92E+09	3.04E−02
S XII	$2s^22p-2s2p^2$	^{2}P^o–^{2}P	*217.180*	*8756.9*	*469205*	6	6	2.09E+10	1.48E−01
			221.425	13135.3	464755	4	2	6.61E+09	2.43E−02
			218.200	13135.3	471430	4	4	1.72E+10	1.23E−01
			215.167	0	464755	2	2	1.44E+10	9.98E−02
			212.121	0	471430	2	4	3.75E+09	5.06E−02
S XII	$2s^22p-2s^23d$	^{2}P^o–^{2}D	*36.509*	*8756.9*	*2747800*	6	10	1.92E+12	6.41E−01
			36.573	13135.3	2747400	4	4	3.19E+11	6.40E−02
			36.564	13135.3	2748100	4	6	1.92E+12	5.76E−01
			36.398	0	2747400	2	4	1.62E+12	6.43E−01
S XII	$2s^22p-2s2p(^3\mathrm{P}^o)3p$	^{2}P^o–^{2}P	*35.251*	*8756.9*	*2845600*	6	6	7.46E+11	1.39E−01
			35.366	13135.3	2840700	4	2	2.47E+11	2.32E−02
			35.275	13135.3	2848000	4	4	6.22E+11	1.16E−01
			35.203	0	2840700	2	2	5.02E+11	9.32E−02
			35.112	0	2848000	2	4	1.26E+11	4.67E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S XII	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2D$	*34.575*	*8756.9*	*2901000*	6	10	8.67E+11	2.59E−01
			34.690	13135.3	2895800	4	4	1.44E+11	2.59E−02
			34.586	13135.3	2904500	4	6	8.70E+11	2.34E−01
			34.533	0	2895800	2	4	7.27E+11	2.60E−01
S XII	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2S$	*34.234*	*8756.9*	2929800	6	2	9.03E+11	5.29E−02
			34.286?	13135.3	2929800?	4	2	6.00E+11	5.29E−02
			34.132?	0	2929800?	2	2	3.04E+11	5.31E−02
S XII	$2s^2 2p - 2s2p(^1P^o)3p$	$^2P^o - ^2D$	*32.76*	*8756.9*	*3061000*	6	10	7.16E+10	1.92E−02
			32.81	13135.3	3061000	4	6	7.10E+10	1.72E−02
			32.81	13135.3	3061000	4	4	1.18E+10	1.91E−03
			32.67	0	3061000	2	4	6.00E+10	1.92E−02
S XII	$2s^2 2p - 2s^2 4d$	$^2P^o - ^2D$	*28.292*	*8756.9*	*3543300*	6	10	6.25E+11	1.25E−01
			28.327	13135.3	3543300	4	6	6.21E+11	1.12E−01
			28.327	13135.3	3543300	4	4	1.04E+11	1.25E−02
			28.222	0	3543300	2	4	5.28E+11	1.26E−01
S XII	$2s^2 2p - 2s2p(^3P^o)4p$	$^2P^o - ^2D$	*26.86*	*8756.9*	*3732000*	6	10	3.66E+11	6.60E−02
			26.89?	13135.3	3732000?	4	6	3.65E+11	5.93E−02
				0		2	4	3.04E+11	6.57E−02
				13135.3		4	4	6.07E+10	6.57E−03
S XII	$2s^2 2p - 2s^2 5d$	$^2P^o - ^2D$	*25.63*	*8756.9*	*3911000*	6	10	2.55E+11	4.19E−02
			25.66	13135.3	3911000	4	6	2.55E+11	3.77E−02
			25.66	13135.3	3911000	4	4	4.24E+10	4.18E−03
			25.57	0	3911000	2	4	2.14E+11	4.20E−02
S XII	$2s^2 2p - 2s^2 6d$	$^2P^o - ^2D$	*24.39*	*8756.9*	*4108000*	6	10	1.63E+11	2.42E−02
			24.42?	13135.3	4108000?	4	6	1.62E+11	2.17E−02
				0		2	4	1.36E+11	2.42E−02
				13135.3		4	4	2.71E+10	2.42E−03
S XII	$2s^2 2p - 2s^2 7d$	$^2P^o - ^2D$	*23.70*	*8756.9*	*4228000*	6	10	1.03E+11	1.45E−02
			23.73?	13135.3	4228000?	4	6	1.03E+11	1.31E−02
				0		2	4	8.61E+10	1.45E−02
				13135.3		4	4	1.72E+10	1.45E−03
S XIII	$2s^2 - 2s2p$	$^1S - ^1P^o$	256.685	0	389583	1	3	7.76E+09	2.30E−01
S XIII	$2s^2 - 2s3p$	$^1S - ^1P^o$	32.242	0	3101500	1	3	1.31E+12	6.13E−01
S XIII	$2s^2 - 2p3s$	$^1S - ^1P^o$	30.077	0	3324800	1	3	6.41E+10	2.61E−02
S XIII	$2s^2 - 2p3d$	$^1S - ^1P^o$	28.926	0	3457100	1	3	8.82E+10	3.32E−02
S XIII	$2s^2 - 2s4p$	$^1S - ^1P^o$	24.590	0	4066700	1	3	5.92E+11	1.61E−01
S XIV	$1s^2 2s - 1s^2 2p$	$^2S - ^2P^o$	*426.607*	0	*234408*	2	6	1.15E+09	9.38E−02
			445.700	0	224366	2	2	1.00E+09	2.99E−02
			417.660	0	239429	2	4	1.22E+09	6.39E−02
S XIV	$1s^2 2s - 1s^2 3p$	$^2S - ^2P^o$	*30.4410*	0	*3285040*	2	6	8.54E+11	3.56E−01
			30.4690	0	3282020	2	2	8.55E+11	1.19E−01
			30.4270	0	3286550	2	4	8.54E+11	2.37E−01
S XIV	$1s^2 2s - 1s^2 4p$	$^2S - ^2P^o$	*23.0084*	0	*4346230*	2	6	3.80E+11	9.04E−02
			23.0151	0	4344980	2	2	3.79E+11	3.01E−02
			23.0051	0	4346860	2	4	3.80E+11	6.03E−02
S XV	$1s^2 - 1s2p$	$^1S - ^1P^o$	5.0387	0	[19846285]	1	3	6.72E+13	7.67E−01
S XV	$1s^2 - 1s3p$	$^1S - ^1P^o$	4.2991	0	[23260416]	1	3	1.84E+13	1.53E−01
S XV	$1s^2 - 1s4p$	$^1S - ^1P^o$	4.0885	0	[24458842]	1	3	7.59E+12	5.71E−02
S XV	$1s^2 - 1s5p$	$^1S - ^1P^o$	3.9978	0	[25014007]	1	3	3.84E+12	2.76E−02
S XV	$1s^2 - 1s6p$	$^1S - ^1P^o$	3.9501	0	[25315693]	1	3	2.19E+12	1.54E−02
S XV	$1s^2 - 1s7p$	$^1S - ^1P^o$	3.9219	0	[25497627]	1	3	1.38E+12	9.57E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
S XV	$1s^2-1s8p$	^{1}S$-^1$P^o	3.9039	0	[25615718]	1	3	9.25E+11	6.34E−03
S XV	$1s^2-1s9p$	^{1}S$-^1$P^o	3.8916	0	[25696685]	1	3	6.47E+11	4.41E−03
S XV	$1s^2-1s10p$	^{1}S$-^1$P^o	3.8828	0	[25754601]	1	3	4.72E+11	3.20E−03
S XVI	$1s-2p$	^{2}S$-^2$P^o	*4.7292*	0	*21145360*	2	6	4.14E+13	4.16E−01
			4.7328	0	[21129240]	2	2	4.14E+13	1.39E−01
			4.7274	0	[21153430]	2	4	4.13E+13	2.77E−01
S XVI	$1s-3p$	^{2}S$-^2$P^o	*3.9912*	0	*25055160*	2	6	1.10E+13	7.90E−02
			3.9920	0	[25050380]	2	2	1.10E+13	2.63E−02
			3.9908	0	[25057550]	2	4	1.10E+13	5.27E−02
S XVI	$1s-4p$	^{2}S$-^2$P^o	*3.7845*	0	*26423820*	2	6	4.50E+12	2.90E−02
			3.7848	0	[26421800]	2	2	4.50E+12	9.67E−03
			3.7843	0	[26424820]	2	4	4.49E+12	1.93E−02
S XVI	$1s-5p$	^{2}S$-^2$P^o	*3.6959*	0	*27057180*	2	6	2.26E+12	1.39E−02
			3.6960	0	[27056150]	2	2	2.27E+12	4.65E−03
			3.6958	0	[27057700]	2	4	2.27E+12	9.30E−03
S XVI	$1s-6p$	^{2}S$-^2$P^o	*3.6496*	0	*27400560*	2	6	1.30E+12	7.80E−03
			3.6496	0	[27400560]	2	4	1.30E+12	5.20E−03
			3.6496	0	[27400560]	2	2	1.30E+12	2.60E−03
S XVI	$1s-7p$	^{2}S$-^2$P^o	*3.6221*	0	*27608150*	2	6	8.17E+11	4.82E−03
			3.6221	0	[27608150]	2	4	8.16E+11	3.21E−03
			3.6221	0	[27608150]	2	2	8.13E+11	1.60E−03
S XVI	$1s-8p$	^{2}S$-^2$P^o	*3.6045*	0	*27742840*	2	6	5.46E+11	3.19E−03
			3.6045	0	[27742840]	2	4	5.44E+11	2.12E−03
			3.6045	0	[27742840]	2	2	5.44E+11	1.06E−03
S XVI	$1s-9p$	^{2}S$-^2$P^o	*3.5926*	0	*27835160*	2	6	3.82E+11	2.22E−03
			3.5926	0	[27835160]	2	4	3.82E+11	1.48E−03
			3.5926	0	[27835160]	2	2	3.81E+11	7.38E−04
S XVI	$1s-10p$	^{2}S$-^2$P^o	*3.5841*	0	*27901180*	2	6	2.77E+11	1.60E−03
			3.5841	0	[27901180]	2	4	2.78E+11	1.07E−03
			3.5841	0	[27901180]	2	2	2.78E+11	5.35E−04
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{3/2})4s$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	1066.6599	0	93750.5978	1	3	1.30E+08	6.65E−02
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{1/2})4s$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{1}{2}\right]^o$	1048.2199	0	95399.8276	1	3	4.94E+08	2.44E−01
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{3/2})5s$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	879.9466	0	113643.260	1	3	7.70E+07	2.68E−02
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{3/2})3d$	$^1\mathrm{S}-\frac{3}{2}\left[\frac{3}{2}\right]^o$	876.0577	0	114147.732	1	3	2.69E+08	9.30E−02
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{1/2})5s$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{1}{2}\right]^o$	869.7542	0	114975.019	1	3	3.50E+07	1.19E−02
Ar I	$3p^6-3p^5(^2\mathrm{P}^o_{1/2})3d$	$^1\mathrm{S}-\frac{1}{2}\left[\frac{3}{2}\right]^o$	866.8000	0	115366.866	1	3	3.14E+08	1.06E−01
Ar II	$3s^23p^5-3s3p^6$	^{2}P$^o-^2$S	*923.8359*	*477.19*	108721.53	6	2	4.22E+08	1.80E−02
			932.0537	1431.58	108721.53	2	2	1.37E+08	1.78E−02
			919.7810	0	108721.53	4	2	2.85E+08	1.81E−02
Ar II	$3s^23p^5-3p^4(^3\mathrm{P})4s$	^{2}P$^o-^2$P	*724.0884*	*477.19*	*138581.8756*	6	6	2.76E+09	2.17E−01
			730.9297	1431.58	138243.6442	2	4	4.46E+08	7.15E−02
			725.5485	1431.58	139258.3384	2	2	1.82E+09	1.44E−01
			723.3606	0	138243.6442	4	4	2.31E+09	1.81E−01
			718.0899	0	139258.3384	4	2	9.42E+08	3.64E−02
Ar II	$3s^23p^5-3p^4(^3\mathrm{P})3d$	^{2}P$^o-^2$P	*690.2642*	*477.19*	*145349.2499*	6	6	6.24E+06	4.46E−04
			697.9419	1431.58	144709.9813	2	2	4.03E+06	2.94E−04
			693.3019	1431.58	145668.8842	2	4	1.03E+06	1.48E−04
			691.0373	0	144709.9813	4	2	2.07E+06	7.42E−05
			686.4884	0	145668.8842	4	4	5.29E+06	3.74E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4s$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*674.4164*	*477.19*	*148753.5369*	6	10	7.81E+08	8.88E−02
			679.4006	1431.58	148620.1411	2	4	6.37E+08	8.81E−02
			672.8563	0	148620.1411	4	4	1.31E+08	8.90E−03
			671.8513	0	148842.4674	4	6	7.90E+08	8.02E−02
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})3d$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*665.0475*	*477.19*	*150842.3837*	6	10	7.93E+08	8.76E−02
			670.9455	1431.58	150474.9900	2	4	6.43E+08	8.68E−02
			664.5623	0	150474.9900	4	4	1.32E+08	8.77E−03
			661.8689	0	151087.3128	4	6	8.05E+08	7.93E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{S})4s$	$^2\mathrm{P^o} - ^2\mathrm{S}$	*599.4097*	*477.19*	167307.9817	6	2	3.81E+09	6.84E−02
			602.8585	1431.58	167307.9817	2	2	1.25E+09	6.80E−02
			597.7001	0	167307.9817	4	2	2.56E+09	6.86E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*581.2060*	*477.19*	*172533.2192*	6	10	6.48E+09	5.47E−01
			583.4371	1431.58	172829.6520	2	4	5.34E+09	5.45E−01
			580.2632	0	172335.5973	4	6	6.51E+09	4.93E−01
			578.6044	0	172829.6520	4	4	1.10E+09	5.50E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d$	$^2\mathrm{P^o} - ^2\mathrm{P}$	*574.4824*	*477.19*	*174546.9268*	6	6	6.22E+09	3.08E−01
			578.1072	1431.58	174409.8892	2	4	1.02E+09	1.02E−01
			576.7365	1431.58	174821.0019	2	2	4.11E+09	2.05E−01
			573.3620	0	174409.8892	4	4	5.21E+09	2.57E−01
			572.0137	0	174821.0019	4	2	2.10E+09	5.15E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{S})3d$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*557.8773*	*477.19*	*179728.0696*	6	10	2.22E+05	1.73E−05
			560.2233	1431.58	179931.8366	2	4	1.84E+05	1.73E−05
			556.8170	0	179592.2250	4	6	2.25E+05	1.57E−05
			555.7660	0	179931.8366	4	4	3.76E+04	1.74E−06
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})5s$	$^2\mathrm{P^o} - ^2\mathrm{P}$	*546.7819*	*477.19*	*183365.4763*	6	6	1.08E+09	4.84E−02
			550.4810	1431.58	183090.8926	2	4	1.76E+08	1.60E−02
			547.9961	1431.58	183914.6437	2	2	7.15E+08	3.22E−02
			546.1768	0	183090.8926	4	4	9.03E+08	4.04E−02
			543.7305	0	183914.6437	4	2	3.66E+08	8.11E−03
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d$	$^2\mathrm{P^o} - ^2\mathrm{S}$	*544.6150*	*477.19*	184093.1341	6	2	8.77E+09	1.30E−01
			547.4606	1431.58	184093.1341	2	2	2.87E+09	1.29E−01
			543.2033	0	184093.1341	4	2	5.88E+09	1.30E−01
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d$	$^2\mathrm{P^o} - ^2\mathrm{P}$	*526.6045*	*477.19*	*190373.0309*	6	6	3.78E+09	1.57E−01
			530.4954	1431.58	189934.6318	2	2	2.46E+09	1.04E−01
			528.6512	1431.58	190592.2305	2	4	6.21E+08	5.20E−02
			526.4969	0	189934.6318	4	2	1.25E+09	2.60E−02
			524.6804	0	190592.2305	4	4	3.17E+09	1.31E−01
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*520.4490*	*477.19*	*192618.9750*	6	10	5.64E+09	3.82E−01
			522.7925	1431.58	192712.0576	2	4	4.64E+09	3.80E−01
			519.3270	0	192556.9199	4	6	5.69E+09	3.45E−01
			518.9089	0	192712.0576	4	4	9.49E+08	3.83E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})5s$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*511.8012*	*477.19*	*195865.5780*	6	10	1.46E+08	9.54E−03
			514.3100	1431.58	195866.8498	2	4	1.20E+08	9.49E−03
			510.5564	0	195864.7301	4	6	1.47E+08	8.60E−03
			510.5509	0	195866.8498	4	4	2.45E+07	9.56E−04
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})6s$	$^2\mathrm{P^o} - ^2\mathrm{P}$	*502.4574*	*477.19*	*199499.0407*	6	6	9.17E+08	3.47E−02
			505.0121	1431.58	199446.6278	2	2	6.02E+08	2.30E−02
			504.8117	1431.58	199525.2472	2	4	1.50E+08	1.15E−02
			501.3873	0	199446.6278	4	2	3.08E+08	5.80E−03
			501.1897	0	199525.2472	4	4	7.70E+08	2.90E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P^o} - ^2\mathrm{D}$	*501.6969*	*477.19*	*199800.7165*	6	10	5.15E+07	3.24E−03
			503.6503	1431.58	199982.0247	2	4	4.25E+07	3.23E−03
			500.8017	0	199679.8443	4	6	5.19E+07	2.93E−03
			500.0449	0	199982.0247	4	4	8.67E+06	3.25E−04
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P^o} - ^2\mathrm{P}$	*500.6201*	*477.19*	*200229.4471*	6	6	7.93E+07	2.98E−03
			503.5229	1431.58	200032.2870	2	4	1.30E+07	9.85E−04
			502.0277	1431.58	200623.7674	2	2	5.21E+07	1.97E−03
			499.9193	0	200032.2870	4	4	6.65E+07	2.49E−03
			498.4454	0	200623.7674	4	2	2.67E+07	4.98E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*490.0973*	*477.19*	*204518.3062*	6	10	3.33E+09	2.00E−01
			492.6455	1431.58	204417.2985	2	4	2.73E+09	1.99E−01
			489.1954	0	204417.2985	4	4	5.57E+08	2.00E−02
			488.7928	0	204585.6446	4	6	3.35E+09	1.80E−01
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*488.9764*	*477.19*	*204986.0335*	6	6	3.18E+09	1.14E−01
			492.4084	1431.58	204515.0521	2	2	2.07E+09	7.54E−02
			490.7013	1431.58	205221.5242	2	4	5.25E+08	3.79E−02
			488.9616	0	204515.0521	4	2	1.06E+09	1.90E−02
			487.2783	0	205221.5242	4	4	2.68E+09	9.53E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*488.3627*	*477.19*	205243.0504	6	2	7.80E+09	9.30E−02
			490.6495	1431.58	205243.0504	2	2	2.57E+09	9.26E−02
			487.2272	0	205243.0504	4	2	5.24E+09	9.32E−02
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})7s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*480.8973*	*477.19*	*208421.8109*	6	6	2.54E+08	8.79E−03
			483.5164	1431.58	208249.7980	2	4	4.17E+07	2.92E−03
			482.3130	1431.58	208765.8368	2	2	1.67E+08	5.84E−03
			480.1925	0	208249.7980	4	4	2.12E+08	7.33E−03
			479.0056	0	208765.8368	4	2	8.55E+07	1.47E−03
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*478.1936*	*477.19*	*209597.4974*	6	6	1.85E+09	6.35E−02
			480.3860	1431.58	209597.4974	2	4	3.03E+08	2.10E−02
			477.1049	0	209597.4974	4	4	1.56E+09	5.31E−02
				1431.58		2	2	1.27E+09	4.37E−02
				0		4	2	6.36E+08	1.09E−02
Ar II	$3s^2 3p^5 - 3p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*477.6378*	*477.19*	*209840.8417*	6	10	2.05E+09	1.17E−01
			480.8110	1431.58	209413.5166	2	4	1.69E+09	1.17E−01
			477.5241	0	209413.5166	4	4	3.42E+08	1.17E−02
			475.9056	0	210125.7251	4	6	2.08E+09	1.06E−01
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})6s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*470.6858*	*477.19*	*212933.1306*	6	10	3.87E+08	2.14E−02
			472.8115	1431.58	212932.3598	2	4	3.18E+08	2.13E−02
			469.6327	0	212932.3598	4	4	6.47E+07	2.14E−03
			469.6299	0	212933.6444	4	6	3.89E+08	1.93E−02
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*466.8746*	*477.19*	*214667.48*	6	10	2.06E+08	1.12E−02
			465.8367	0	214667.48	4	6	2.07E+08	1.01E−02
				1431.58		2	4	1.76E+08	1.15E−02
				0		4	4	3.52E+07	1.15E−03
Ar II	$3s^2 3p^5 - 3p^4(^1\mathrm{S})5s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*466.0080*	*477.19*	215065.7718	6	2	8.94E+08	9.70E−03
			468.0899	1431.58	215065.7718	2	2	2.94E+08	9.65E−03
			464.9740	0	215065.7718	4	2	6.00E+08	9.72E−03
Ar III	$3s^2 3p^4 - 3s3p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*879.0646*	*545.2*	*114302.4*	9	9	3.32E+08	3.85E−02
			887.4051	1112.1	113800.2	3	5	8.03E+07	1.58E−02
			883.1800	1570.2	114797.4	1	3	1.09E+08	3.83E−02
			879.6212	1112.1	114797.4	3	3	8.28E+07	9.60E−03
			878.7331	0	113800.2	5	5	2.49E+08	2.88E−02
			875.5287	1112.1	115328.8	3	1	3.37E+08	1.29E−02
			871.0999	0	114797.4	5	3	1.42E+08	9.70E−03
Ar III	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)3d^*$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*639.4058*	*545.2*	*156940.4*	9	15	2.60E+07	2.66E−03
			643.2568	1570.2	157029.1	1	3	1.42E+07	2.64E−03
			641.8086	1112.1	156921.8	3	5	1.93E+07	1.99E−03
			641.3669	1112.1	157029.1	3	3	1.08E+07	6.64E−04
			637.2853	0	156915.6	5	7	2.64E+07	2.25E−03
			637.2601	0	156921.8	5	5	6.57E+06	4.00E−04
			636.8246	0	157029.1	5	3	7.32E+05	2.67E−05
Ar III	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)4s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*555.1342*	*545.2*	180681.775	9	3	7.92E+09	1.22E−01
			558.3112	1570.2	180681.775	1	3	8.63E+08	1.21E−01
			556.8869	1112.1	180681.775	3	3	2.60E+09	1.21E−01
			553.4593	0	180681.775	5	3	4.43E+09	1.22E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^\circ)3d^*$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*533.1474*	*545.2*	*188110.568*	9	15	4.42E+08	3.14E−02
			538.7842	1570.2	187173.268	1	3	2.38E+08	3.11E−02
			537.4577	1112.1	187173.268	3	3	1.80E+08	7.80E−03
			535.5811	1112.1	187825.181	3	5	3.28E+08	2.35E−02
			534.2643	0	187173.268	5	3	1.22E+07	3.14E−04
			532.4100	0	187825.181	5	5	1.11E+08	4.73E−03
			529.8965	0	188716.115	5	7	4.51E+08	2.66E−02
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^\circ)3d^*$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*530.7544*	*545.2*	*188956.2*	9	9	8.52E+07	3.60E−03
			534.9041	1570.2	188519.584	1	3	2.78E+07	3.58E−03
			534.6659	1112.1	188144.8	3	1	8.33E+07	1.19E−03
			533.5966	1112.1	188519.584	3	3	2.10E+07	8.96E−04
			531.1566	1112.1	189380.5	3	5	2.13E+07	1.50E−03
			530.4489	0	188519.584	5	3	3.56E+07	9.02E−04
			528.0375	0	189380.5	5	5	6.51E+07	2.72E−03
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*509.9517*	*545.2*	*196642.169*	9	15	2.89E+09	1.88E−01
			512.7635	1570.2	196591.878	1	3	1.58E+09	1.87E−01
			511.5619	1112.1	196591.878	3	3	1.19E+09	4.67E−02
			511.4976	1112.1	196616.455	3	5	2.14E+09	1.40E−01
			508.6680	0	196591.878	5	3	8.08E+07	1.88E−03
			508.6044	0	196616.455	5	5	7.27E+08	2.82E−02
			508.4347	0	196682.090	5	7	2.91E+09	1.58E−01
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*489.7571*	*545.2*	204728.0	9	3	2.15E+10	2.58E−01
			492.2282	1570.2	204728.0	1	3	2.35E+09	2.56E−01
			491.1208	1112.1	204728.0	3	3	7.11E+09	2.57E−01
			488.4530	0	204728.0	5	3	1.20E+10	2.58E−01
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^\circ)4s$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*483.4714*	*545.2*	*207382.6*	9	9	2.56E+10	8.97E−01
			485.5272	1570.2	207531.9	1	3	8.42E+09	8.93E−01
			485.1487	1112.1	207234.487	3	5	6.33E+09	3.72E−01
			484.4497	1112.1	207531.9	3	3	6.37E+09	2.24E−01
			484.1125	1112.1	207675.673	3	1	2.54E+10	2.98E−01
			482.5452	0	207234.487	5	5	1.93E+10	6.75E−01
			481.8536	0	207531.9	5	3	1.08E+10	2.26E−01
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^\circ)3d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*475.7297*	*545.2*	*210748.6*	9	15	3.17E+10	1.79E+00
			476.4335	1112.1	211005.0	3	5	2.36E+10	1.34E+00
			476.1981	1570.2	211566.827	1	3	1.76E+10	1.79E+00
			475.7040	0	210214.735	5	7	3.16E+10	1.50E+00
			475.1616	1112.1	211566.827	3	3	1.32E+10	4.47E−01
			473.9224	0	211005.0	5	5	7.99E+09	2.69E−01
			472.6639	0	211566.827	5	3	8.96E+08	1.80E−02
Ar III	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^\circ)3d^*$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*468.1457*	*545.2*	*214153.9*	9	9	1.08E+10	3.55E−01
			469.9699	1570.2	214349.780	1	3	3.56E+09	3.54E−01
			469.8339	1112.1	213953.256	3	5	2.68E+09	1.48E−01
			468.9603	1112.1	214349.780	3	3	2.69E+09	8.86E−02
			468.4782	1112.1	214569.2	3	1	1.08E+10	1.18E−01
			467.3918	0	213953.256	5	5	8.15E+09	2.67E−01
			466.5272	0	214349.780	5	3	4.55E+09	8.91E−02
Ar III	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^\circ)4d$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*397.2496*	*545.2*	*252276.04*	9	15	4.18E+09	1.65E−01
			398.8788	1570.2	252272.92	1	3	2.31E+09	1.65E−01
			398.1818	1112.1	252253.69	3	5	3.13E+09	1.24E−01
			398.1513	1112.1	252272.92	3	3	1.73E+09	4.12E−02
			396.4263	0	252253.69	5	5	1.05E+09	2.48E−02
			396.3961	0	252272.92	5	3	1.17E+08	1.66E−03
			396.3640	0	252293.347	5	7	4.22E+09	1.39E−01
Ar III	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^\circ)5s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*396.7770*	*545.2*	252575.88	9	3	3.01E+09	2.37E−02
			398.3974	1570.2	252575.88	1	3	3.31E+08	2.36E−02
			397.6716	1112.1	252575.88	3	3	1.00E+09	2.37E−02
			395.9206	0	252575.88	5	3	1.69E+09	2.38E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar III	$3s^2 3p^4 - 3p^3(^2D^\circ)4d$	$^3P - ^3D^\circ$	*372.4982*	*545.2*	*269002.811*	9	15	1.72E+09	5.96E−02
			373.9566	1570.2	268980.893	1	3	9.43E+08	5.93E−02
			373.3171	1112.1	268980.893	3	3	7.13E+08	1.49E−02
			373.2693	1112.1	269015.163	3	5	1.28E+09	4.46E−02
			371.7736	0	268980.893	5	3	4.80E+07	5.97E−04
			371.7425	0	269003.382	5	7	1.73E+09	5.02E−02
			371.7263	0	269015.163	5	5	4.32E+08	8.95E−03
Ar III	$3s^2 3p^4 - 3p^3(^2D^\circ)4d$	$^3P - ^3P^\circ$	*368.9487*	*545.2*	*271585.54*	9	9	3.62E+09	7.39E−02
			370.2281	1570.2	271673.948	1	3	1.19E+09	7.36E−02
			369.8249	1112.1	271510.360	3	5	8.98E+08	3.07E−02
			369.6013	1112.1	271673.948	3	3	8.98E+08	1.84E−02
			369.5708	1112.1	271696.22	3	1	3.60E+09	2.46E−02
			368.3101	0	271510.360	5	5	2.73E+09	5.55E−02
			368.0883	0	271673.948	5	3	1.52E+09	1.85E−02
Ar III	$3s^2 3p^4 - 3p^3(^2D^\circ)4d$	$^3P - ^3S^\circ$	*368.2909*	*545.2*	272069.625	9	3	1.87E+09	1.27E−02
			369.6866	1570.2	272069.625	1	3	2.07E+08	1.27E−02
			369.0615	1112.1	272069.625	3	3	6.22E+08	1.27E−02
			367.5530	0	272069.625	5	3	1.05E+09	1.28E−02
Ar III	$3s^2 3p^4 - 3p^3(^2D^\circ)5s$	$^3P - ^3D^\circ$	*368.1051*	*545.2*	*272206.74*	9	15	6.29E+08	2.13E−02
			369.6070	1570.2	272127.82	1	3	3.45E+08	2.12E−02
			368.9823	1112.1	272127.82	3	3	2.60E+08	5.31E−03
			368.9002	1112.1	272188.16	3	5	4.68E+08	1.59E−02
			367.4744	0	272127.82	5	3	1.76E+07	2.14E−04
			367.3929	0	272188.16	5	5	1.58E+08	3.20E−03
			367.3043	0	272253.831	5	7	6.32E+08	1.79E−02
Ar III	$3s^2 3p^4 - 3p^3(^2P^\circ)4d$	$^3P - ^3P^\circ$	*355.2309*	*545.2*	*282052.18*	9	9	6.18E+08	1.17E−02
			356.5911	1570.2	282003.459	1	3	2.03E+08	1.16E−02
			356.0800	1112.1	281947.88	3	1	6.11E+08	3.87E−03
			356.0095	1112.1	282003.459	3	3	1.53E+08	2.90E−03
			355.8843	1112.1	282102.275	3	5	1.53E+08	4.84E−03
			354.6056	0	282003.459	5	3	2.58E+08	2.92E−03
			354.4814	0	282102.275	5	5	4.65E+08	8.76E−03
Ar III	$3s^2 3p^4 - 3p^3(^2P^\circ)4d$	$^3P - ^3D^\circ$	*352.7642*	*545.2*	*284020.62*	9	15	2.32E+09	7.21E−02
			353.9218	1570.2	284118.51	1	3	1.27E+09	7.18E−02
			353.3731	1112.1	284099.086	3	5	1.73E+09	5.40E−02
			353.3489	1112.1	284118.51	3	3	9.62E+08	1.80E−02
			352.2086	0	283922.618	5	7	2.33E+09	6.07E−02
			351.9899	0	284099.086	5	5	5.81E+08	1.08E−02
			351.9658	0	284118.51	5	3	6.49E+07	7.23E−04
Ar III	$3s^2 3p^4 - 3p^3(^2P^\circ)5s$	$^3P - ^3P^\circ$	*350.3831*	*545.2*	*285947.03*	9	9	3.60E+08	6.62E−03
			351.7265	1570.2	285882.00	1	3	1.18E+08	6.58E−03
			351.2234	1112.1	285831.20	3	1	3.57E+08	2.20E−03
			351.1607	1112.1	285882.00	3	3	8.92E+07	1.65E−03
			351.0039	1112.1	286009.21	3	5	8.93E+07	2.75E−03
			349.7947	0	285882.00	5	3	1.51E+08	1.66E−03
			349.6391	0	286009.21	5	5	2.71E+08	4.97E−03
Ar IV	$3s^2 3p^3 - 3s3p^4$	$^4S^\circ - ^4P$	*846.5366*	0	*118128.4*	4	12	2.40E+08	7.74E−02
			850.5962	0	117564.6	4	6	2.37E+08	3.85E−02
			843.7651	0	118516.4	4	4	2.43E+08	2.59E−02
			840.0277	0	119043.7	4	2	2.46E+08	1.30E−02
Ar IV	$3s^2 3p^3 - 3p^2(^3P)3d$	$^4S^\circ - ^4P$	*452.2888*	0	*221097.6*	4	12	3.38E+10	3.11E+00
			452.9271	0	220786.1	4	6	3.38E+10	1.56E+00
			451.8745	0	221300.4	4	4	3.40E+10	1.04E+00
			451.2090	0	221626.8	4	2	3.41E+10	5.21E−01
Ar IV	$3s^2 3p^3 - 3p^2(^3P)4s$	$^4S^\circ - ^4P$	*397.8999*	0	*251319.5*	4	12	1.71E+09	1.22E−01
			399.6569	0	250214.6	4	2	1.70E+09	2.03E−02
			398.5629	0	250901.4	4	4	1.71E+09	4.07E−02
			396.8782	0	251966.5	4	6	1.73E+09	6.13E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar V	$3s^2 3p^2 - 3s 3p^3$	^{3}P–^{3}D^o	*830.919*	*1381.7*	*121730.4*	9	15	2.48E+08	4.28E−02
			836.101	2029.2	121632	5	3	6.77E+06	4.26E−04
			835.779	2029.2	121678	5	5	6.10E+07	6.39E−03
			834.858	2029.2	121810	5	7	2.45E+08	3.58E−02
			827.343	763.2	121632	3	3	1.05E+08	1.08E−02
			827.029	763.2	121678	3	5	1.89E+08	3.23E−02
			822.152	0	121632	1	3	1.42E+08	4.33E−02
Ar V	$3s^2 3p^2 - 3s 3p^3$	^{3}P–^{3}P^o	*712.320*	*1381.7*	*141768*	9	9	7.98E+08	6.07E−02
			715.641	2029.2	141764	5	5	5.90E+08	4.53E−02
			715.595	2029.2	141773	5	3	3.28E+08	1.51E−02
			709.216	763.2	141764	3	5	2.01E+08	2.53E−02
			709.171	763.2	141773	3	3	2.02E+08	1.52E−02
			709.171	763.2	141773	3	1	8.08E+08	2.03E−02
			705.353	0	141773	1	3	2.73E+08	6.12E−02
Ar V	$3s^2 3p^2 - 3s 3p^3$	^{3}P–^{3}S^o	*525.886*	*1381.7*	191537	9	3	2.19E+10	3.02E−01
			527.683	2029.2	191537	5	3	1.20E+10	3.01E−01
			524.181	763.2	191537	3	3	7.36E+09	3.03E−01
			522.092	0	191537	1	3	2.49E+09	3.05E−01
Ar V	$3s^2 3p^2 - 3s^2 3p 3d$	^{3}P–^{3}P^o	*461.786*	*1381.7*	*217932*	9	9	1.80E+10	5.74E−01
			463.932	2029.2	217578	5	5	1.33E+10	4.29E−01
			462.413	2029.2	218286	5	3	7.49E+09	1.44E−01
			461.223	763.2	217578	3	5	4.52E+09	2.40E−01
			459.722	763.2	218286	3	3	4.58E+09	1.45E−01
			458.971	763.2	218642	3	1	1.83E+10	1.93E−01
			458.115	0	218286	1	3	6.13E+09	5.79E−01
Ar V	$3s^2 3p^2 - 3s^2 3p 3d$	^{3}P–^{3}D^o	*448.100*	*1381.7*	*224546*	9	15	2.77E+10	1.39E+00
			450.072	2029.2	224216	5	3	7.57E+08	1.38E−02
			449.487	2029.2	224505	5	5	6.87E+09	2.08E−01
			449.059	2029.2	224717	5	7	2.76E+10	1.17E+00
			447.522	763.2	224216	3	3	1.16E+10	3.48E−01
			446.944	763.2	224505	3	5	2.10E+10	1.05E+00
			445.999	0	224216	1	3	1.56E+10	1.40E+00
Ar V	$3s^2 3p^2 - 3s^2 3p 4s$	^{3}P–^{3}P^o	*338.153*	*1381.7*	*297106*	9	9	8.28E+09	1.42E−01
			339.882	2029.2	296249	5	3	3.40E+09	3.53E−02
			339.007	763.2	295742	3	1	8.20E+09	4.71E−02
			338.426	763.2	296249	3	3	2.07E+09	3.55E−02
			337.993	2029.2	297893	5	5	6.25E+09	1.07E−01
			337.554	0	296249	1	3	2.77E+09	1.42E−01
			336.553	763.2	297893	3	5	2.10E+09	5.94E−02
Ar VI	$3s^2 3p - 3s 3p^2$	^{2}P^o–^{2}D	*763.0232*	*1471.4*	*132529.0*	6	10	4.54E+08	6.61E−02
			767.7290	2207.1	132461.4	4	4	7.43E+07	6.57E−03
			767.0653	2207.1	132574.1	4	6	4.47E+08	5.92E−02
			754.9369	0	132461.4	2	4	3.91E+08	6.68E−02
Ar VI	$3s^2 3p - 3s 3p^2$	^{2}P^o–^{2}S	*594.0631*	*1471.4*	169803.7	6	2	4.90E+09	8.65E−02
			596.6708	2207.1	169803.7	4	2	3.23E+09	8.62E−02
			588.9153	0	169803.7	2	2	1.68E+09	8.73E−02
Ar VI	$3s^2 3p - 3s 3p^2$	^{2}P^o–^{2}P	*550.5404*	*1471.4*	*183111.1*	6	6	1.43E+10	6.48E−01
			555.6358	2207.1	182181.1	4	2	4.62E+09	1.07E−01
			551.3621	2207.1	183576.1	4	4	1.18E+10	5.39E−01
			548.9044	0	182181.1	2	2	9.59E+09	4.33E−01
			544.7332	0	183576.1	2	4	2.45E+09	2.18E−01
Ar VI	$3s^2 3p - 3s^2 3d$	^{2}P^o–^{2}D	*460.4953*	*1471.4*	*218628.9*	6	10	1.77E+10	9.36E−01
			462.1373	2207.1	218593.0	4	4	2.91E+09	9.33E−02
			462.0096	2207.1	218652.8	4	6	1.75E+10	8.40E−01
			457.4712	0	218593.0	2	4	1.50E+10	9.42E−01
Ar VI	$3s^2 3p - 3s^2 4s$	^{2}P^o–^{2}S	*293.4002*	*1471.4*	342302.8	6	2	1.92E+10	8.24E−02
			294.0349	2207.1	342302.8	4	2	1.27E+10	8.22E−02
			292.1390	0	342302.8	2	2	6.46E+09	8.27E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar VI	$3s^2 3p - 3s^2 4d$	^{2}P^o – ^{2}D	*220.6015*	*1471.4*	*454777.5*	6	10	3.68E+09	4.48E−02
			220.9757	2207.1	454745.6	4	4	6.11E+08	4.47E−03
			220.9497	2207.1	454798.8	4	6	3.66E+09	4.02E−02
			219.9032	0	454745.6	2	4	3.10E+09	4.49E−02
Ar VI	$3s^2 3p - 3s^2 5d$	^{2}P^o – ^{2}D	*180.508*	*1471.4*	*555465*	6	10	4.95E+09	4.03E−02
			180.792	2207.1	555330	4	4	8.20E+08	4.02E−03
			180.718	2207.1	555555	4	6	4.93E+09	3.62E−02
			180.073	0	555330	2	4	4.16E+09	4.04E−02
Ar VII	$3s^2 - 3s3p$	^{1}S – ^{1}P^o	585.754	0	170720	1	3	8.04E+09	1.24E+00
Ar VII	$3s^2 - 3s4p$	^{1}S – ^{1}P^o	176.566	0	566362	1	3	1.28E+10	1.79E−01
Ar VIII	$2p^6 3s - 2p^6 3p$	^{2}S – ^{2}P^o	*704.71*	0	*141903*	2	6	2.57E+09	5.73E−01
			713.81	0	140093	2	2	2.46E+09	1.88E−01
			700.24	0	142808	2	4	2.62E+09	3.85E−01
Ar VIII	$2p^6 3s - 2p^6 4p$	^{2}S – ^{2}P^o	*159.007*	0	*628905*	2	6	1.09E+10	1.24E−01
			159.175	0	628240	2	2	1.09E+10	4.14E−02
			158.923	0	629237	2	4	1.09E+10	8.29E−02
Ar VIII	$2p^6 3s - 2p^6 5p$	^{2}S – ^{2}P^o	*120.114*	0	*832542*	2	6	6.75E+09	4.38E−02
			120.157	0	832245	2	2	6.74E+09	1.46E−02
			120.093	0	832691	2	4	6.75E+09	2.92E−02
Ar IX	$2s^2 2p^6 - 2p^5 3s$	^{1}S – ^{1}P^o	48.7389	0	2051750	1	3	2.23E+11	2.38E−01
Ar IX	$2s^2 2p^6 - 2p^5 3d$	^{1}S – ^{1}P^o	41.4760	0	2411030	1	3	2.60E+12	2.01E+00
Ar IX	$2s^2 2p^6 - 2p^5 4s$	^{1}S – ^{1}P^o	36.9829	0	2703950	1	3	8.31E+10	5.11E−02
Ar IX	$2s^2 2p^6 - 2p^6 3p$	^{1}S – ^{1}P^o	35.8340	0	2790645	1	3	5.77E+11	3.33E−01
Ar IX	$2s^2 2p^6 - 2p^5 4d$	^{1}S – ^{1}P^o	35.0239	0	2855190	1	3	9.50E+11	5.24E−01
Ar IX	$2s^2 2p^6 - 2p^5 5d$	^{1}S – ^{1}P^o	32.6670	0	3061190	1	3	5.79E+11	2.78E−01
Ar IX	$2s^2 2p^6 - 2p^5 6d$	^{1}S – ^{1}P^o	31.5120	0	3173390	1	3	3.43E+11	1.53E−01
Ar X	$2s^2 2p^5 - 2s2p^6$	^{2}P^o – ^{2}S	*167.196*	*6019*	604120	6	2	4.75E+10	6.63E−02
			170.630	18057	604120	2	2	1.49E+10	6.50E−02
			165.530	0	604120	4	2	3.26E+10	6.70E−02
Ar X	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3s$	^{2}P^o – ^{2}P	*43.9612*	*6019*	*2280754*	6	6	3.76E+11	1.09E−01
			44.2711	18057	2276867	2	4	6.13E+10	3.60E−02
			44.0437	18057	2288527	2	2	2.49E+11	7.23E−02
			43.9200	0	2276867	4	4	3.14E+11	9.07E−02
			43.6962	0	2288527	4	2	1.27E+11	1.82E−02
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3s$	^{2}P^o – ^{2}D	*43.0491*	*6019*	*2328949*	6	10	1.46E+11	6.76E−02
			43.2700	18057	2329127	2	4	1.20E+11	6.72E−02
			42.9400	0	2328831	4	6	1.47E+11	6.09E−02
			42.9345	0	2329127	4	4	2.45E+10	6.77E−03
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	^{2}P^o – ^{2}S	*41.6771*	*6019*	2405420	6	2	1.46E+11	1.27E−02
			41.8872	18057	2405420	2	2	4.79E+10	1.26E−02
			41.5728	0	2405420	4	2	9.80E+10	1.27E−02
Ar X	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P^o – ^{2}D	*38.375*	*6019*	*2611850*	6	10	1.10E+12	4.05E−01
			38.641	18057	[2606000]	2	4	9.00E+11	4.03E−01
			38.373	0	[2606000]	4	4	1.83E+11	4.05E−02
			38.2300	0	2615747	4	6	1.12E+12	3.67E−01
Ar X	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P^o – ^{2}P	*38.3730*	*6019*	*2612018*	6	6	2.41E+11	5.31E−02
			38.6961	18057	[2602298]	2	2	1.56E+11	3.51E−02
			38.4790	18057	[2616878]	2	4	3.99E+10	1.77E−02
			38.4276	0	[2602298]	4	2	7.99E+10	8.84E−03
			38.2135	0	[2616878]	4	4	2.03E+11	4.45E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{S}$	*37.7081*	*6019*	2657966	6	2	2.29E+12	1.63E−01
			37.8801	18057	[2657966]	2	2	7.53E+11	1.62E−01
			37.6228	0	[2657966]	4	2	1.55E+12	1.64E−01
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*37.5310*	*6019*	*2670486*	6	6	2.68E+12	5.67E−01
			37.7325	18057	[2668291]	2	4	4.40E+11	1.88E−01
			37.6390	18057	[2674877]	2	2	1.77E+12	3.77E−01
			37.4772	0	[2668291]	4	4	2.24E+12	4.72E−01
			37.3849	0	[2674877]	4	2	9.04E+11	9.47E−02
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*37.4809*	*6019*	*2674045*	6	10	2.06E+12	7.24E−01
			37.6000	18057	2677631	2	4	1.70E+12	7.21E−01
			37.4300	0	2671654	4	6	2.07E+12	6.52E−01
			37.3464	0	2677631	4	4	3.47E+11	7.26E−02
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*36.6315*	*6019*	*2735908*	6	10	4.47E+11	1.50E−01
			36.7800	18057	2736926	2	4	3.67E+11	1.49E−01
			36.5600	0	2735230	4	6	4.49E+11	1.35E−01
			36.5373	0	2736926	4	4	7.49E+10	1.50E−02
Ar X	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*32.675*	*6019*	*3066500*	6	10	4.54E+11	1.21E−01
			32.610	0	3066500	4	6	4.60E+11	1.10E−01
				18057		2	4	3.65E+11	1.17E−01
				0		4	4	7.37E+10	1.18E−02
Ar X	$2s^2 2p^5 - 2p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*32.614*	*6019*	*3072200*	6	6	7.34E+10	1.17E−02
			32.742	18057	3072200	2	2	4.84E+10	7.78E−03
			32.742	18057	3072200	2	4	1.21E+10	3.89E−03
			32.550	0	3072200	4	4	6.16E+10	9.79E−03
			32.550	0	3072200	4	2	2.47E+10	1.96E−03
Ar X	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{S}$	*32.513*	*6019*	3081700	6	2	6.42E+11	3.39E−02
			32.641	18057	3081700	2	2	2.12E+11	3.38E−02
			32.450	0	3081700	4	2	4.31E+11	3.40E−02
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*30.996*	*6019*	*3232240*	6	10	4.33E+11	1.04E−01
			31.080	18057	3235600	2	4	3.59E+11	1.04E−01
			30.960	0	3230000	4	6	4.37E+11	9.42E−02
			30.906	0	3235600	4	4	7.33E+10	1.05E−02
Ar X	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*29.131*	*6019*	*3438840*	6	10	1.59E+11	3.38E−02
			29.197	18057	3443100	2	4	1.32E+11	3.37E−02
			29.104	0	3436000	4	6	1.60E+11	3.04E−02
			29.044	0	3443100	4	4	2.68E+10	3.39E−03
Ar XI	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^\circ$	*189.02*	*6849*	*535890*	9	9	2.15E+10	1.15E−01
			194.11	14456	529630	3	5	4.98E+09	4.69E−02
			190.95	18274	541960	1	3	6.95E+09	1.14E−01
			189.57	14456	541960	3	3	5.35E+09	2.88E−02
			188.81	0	529630	5	5	1.62E+10	8.68E−02
			187.08	14456	548990	3	1	2.22E+10	3.89E−02
			184.52	0	541960	5	3	9.66E+09	2.96E−02
Ar XI	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{S}^\circ$	*39.826*	*6849*	2517800	9	3	5.50E+11	4.36E−02
			40.008	18274	2517800	1	3	6.03E+10	4.34E−02
			39.947	14456	2517800	3	3	1.82E+11	4.35E−02
			39.717	0	2517800	5	3	3.09E+11	4.38E−02
Ar XI	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^\circ)3s$	$^3\mathrm{P} - ^3\mathrm{D}^\circ$	*38.708*	*6849*	*2590300*	9	15	1.78E+11	6.65E−02
			38.900	18274	2589000	1	3	9.73E+10	6.62E−02
			38.842	14456	2589000	3	3	7.34E+10	1.66E−02
			38.789	14456	2592500	3	5	1.32E+11	4.98E−02
			38.625	0	2589000	5	3	4.97E+09	6.67E−04
			38.620	0	2589300	5	7	1.79E+11	5.60E−02
			38.573	0	2592500	5	5	4.48E+10	1.00E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar XI	$2s^2 2p^4 - 2p^3(^2P^o)3s$	$^3P - ^3P^o$	*37.908*	*6849*	*2644800*	9	9	1.75E+11	3.77E−02
			38.018	14456	2644800	3	5	4.32E+10	1.56E−02
			37.810	0	2644800	5	5	1.32E+11	2.83E−02
				14456		3	3	4.38E+10	9.44E−03
				0		5	3	7.31E+10	9.45E−03
				14456		3	1	1.75E+11	1.26E−02
				18274		1	3	5.85E+10	3.78E−02
Ar XI	$2s^2 2p^4 - 2p^3(^4S^o)3d$	$^3P - ^3D^o$	*35.485*	*6849*	*2825000*	9	15	8.07E+11	2.54E−01
			35.700	18274	2819400	1	3	4.40E+11	2.52E−01
			35.651	14456	2819400	3	3	3.32E+11	6.33E−02
			35.580	14456	2825000	3	5	6.01E+11	1.90E−01
			35.469	0	2819400	5	3	2.24E+10	2.54E−03
			35.398	0	2825000	5	5	2.04E+11	3.83E−02
			35.369	0	2827300	5	7	8.19E+11	2.15E−01
Ar XI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3D^o$	*34.420*	*6849*	*2912100*	9	15	1.69E+12	4.99E−01
			34.561	18274	2911700	1	3	9.25E+11	4.97E−01
			34.520	14456	2911300	3	5	1.25E+12	3.73E−01
			34.516	14456	2911700	3	3	7.00E+11	1.25E−01
			34.349	0	2911300	5	5	4.24E+11	7.50E−02
			34.344	0	2911700	5	3	4.72E+10	5.01E−03
			34.330	0	2912900	5	7	1.70E+12	4.20E−01
Ar XI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3P^o$	*34.320*	*6849*	*2920600*	9	9	2.70E+12	4.77E−01
			34.410	14456	2920600	3	5	6.69E+11	1.98E−01
			34.240	0	2920600	5	5	2.04E+12	3.59E−01
				14456		3	3	6.74E+11	1.19E−01
				0		5	3	1.12E+12	1.19E−01
				14456		3	1	2.70E+12	1.59E−01
				18274		1	3	9.00E+11	4.77E−01
Ar XI	$2s^2 2p^4 - 2p^3(^2D^o)3d$	$^3P - ^3S^o$	*34.179*	*6849*	2932600	9	3	2.76E+12	1.61E−01
			34.313	18274	2932600	1	3	3.02E+11	1.60E−01
			34.268	14456	2932600	3	3	9.14E+11	1.61E−01
			34.099	0	2932600	5	3	1.54E+12	1.61E−01
Ar XI	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3D^o$	*33.720*	*6849*	*2972500*	9	15	1.72E+12	4.90E−01
			33.840	14456	2969500	3	5	1.28E+12	3.66E−01
			33.775	18274	2979000	1	3	9.53E+11	4.89E−01
			33.732	14456	2979000	3	3	7.15E+11	1.22E−01
			33.676	0	2969500	5	5	4.32E+11	7.35E−02
			33.650	0	2971800	5	7	1.74E+12	4.13E−01
			33.568	0	2979000	5	3	4.85E+10	4.92E−03
Ar XII	$2s^2 2p^3 - 2s2p^4$	$^4S^o - ^4P$	*220.745*	0	*453011*	4	12	6.62E+09	1.45E−01
			224.250	0	445931	4	6	6.27E+09	7.09E−02
			218.290	0	458106	4	4	6.79E+09	4.85E−02
			215.490	0	464059	4	2	7.07E+09	2.46E−02
Ar XII	$2s^2 2p^3 - 2p^2(^3P)3s$	$^4S^o - ^4P$	*34.742*	0	*2878400*	4	12	2.03E+11	1.10E−01
			34.880	0	2867000	4	2	2.00E+11	1.82E−02
			34.780	0	2875200	4	4	2.02E+11	3.66E−02
			34.670	0	2884300	4	6	2.03E+11	5.50E−02
Ar XII	$2s^2 2p^3 - 2p^2(^3P)3d$	$^4S^o - ^4P$	*31.372*	0	*3187520*	4	12	3.93E+12	1.74E+00
			31.389	0	3185800	4	6	3.92E+12	8.68E−01
			31.347	0	3190100	4	4	3.93E+12	5.79E−01
				0		4	2	3.93E+12	2.90E−01
Ar XII	$2s^2 2p^3 - 2p^3(^5S^o)3p$	$^4S^o - ^4P$	*30.580*	0	*3270100*	4	12	5.82E+11	2.45E−01
			30.580	0	3270100	4	6	5.85E+11	1.23E−01
				0		4	4	5.78E+11	8.11E−02
				0		4	2	5.78E+11	4.05E−02
Ar XII	$2s^2 2p^3 - 2p^2(^3P)4d$	$^4S^o - ^4P$	*25.040*	0	*3993600*	4	12	1.35E+12	3.82E−01
			25.040	0	3993600	4	6	1.35E+12	1.91E−01
				0		4	4	1.35E+12	1.27E−01
				0		4	2	1.36E+12	6.38E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar XIII	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3D^o$	*245.12*	*15444*	*423410*	9	15	3.72E+09	5.58E−02
			249.48	21893	422720	5	5	8.82E+08	8.23E−03
			249.16	21893	423240	5	3	9.83E+07	5.49E−04
			248.71	21893	423970	5	7	3.56E+09	4.62E−02
			242.20	9845	422720	3	5	2.89E+09	4.24E−02
			241.90	9845	423240	3	3	1.61E+09	1.41E−02
			236.27	0	423240	1	3	2.31E+09	5.79E−02
Ar XIII	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3P^o$	*207.895*	*15444*	*496456*	9	9	9.60E+09	6.22E−02
			211.006	21893	495814	5	3	3.82E+09	1.53E−02
			210.461	21893	497040	5	5	6.94E+09	4.61E−02
			205.924	9845	495460	3	1	9.86E+09	2.09E−02
			205.774	9845	495814	3	3	2.47E+09	1.57E−02
			205.257	9845	497040	3	5	2.49E+09	2.62E−02
			201.689	0	495814	1	3	3.50E+09	6.40E−02
Ar XIII	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3S^o$	*163.09*	*15444*	628620	9	3	5.40E+10	7.18E−02
			164.82	21893	628620	5	3	2.91E+10	7.10E−02
			161.61	9845	628620	3	3	1.85E+10	7.24E−02
			159.08	0	628620	1	3	6.47E+09	7.36E−02
Ar XIII	$2s^2 2p^2 - 2s^2 2p3s$	$^3P - ^3P^o$	*31.799*	*15444*	*3160200*	9	9	4.02E+11	6.09E−02
			31.864	21893	3160200	5	5	2.99E+11	4.55E−02
			31.742	9845	3160200	3	5	1.01E+11	2.54E−02
				9845		3	3	1.00E+11	1.52E−02
				21893		5	3	1.67E+11	1.52E−02
				9845		3	1	4.00E+11	2.02E−02
				0		1	3	1.33E+11	6.07E−02
Ar XIII	$2s^2 2p^2 - 2s^2 2p3d$	$^3P - ^3D^o$	*29.370*	*15444*	*3420260*	9	15	4.21E+12	9.08E−01
			29.510	21893	3410600	5	3	1.15E+11	9.03E−03
			29.454	21893	3417050	5	5	1.05E+12	1.36E−01
			29.405	9845	3410600	3	3	1.74E+12	2.26E−01
			29.370	21893	3426700	5	7	4.21E+12	7.62E−01
			29.350	9845	3417050	3	5	3.16E+12	6.81E−01
			29.320	0	3410600	1	3	2.35E+12	9.08E−01
Ar XIII	$2s^2 2p^2 - 2s^2 2p3d$	$^3P - ^3P^o$	*29.257*	*15444*	*3433400*	9	9	2.33E+12	2.99E−01
			29.320	21893	3432500	5	5	1.73E+12	2.23E−01
			29.305	21893	3434300	5	3	9.67E+11	7.47E−02
			29.217	9845	3432500	3	5	5.86E+11	1.25E−01
			29.202	9845	3434300	3	3	5.85E+11	7.48E−02
			29.191	9845	3435600	3	1	2.34E+12	9.98E−02
			29.118	0	3434300	1	3	7.89E+11	3.01E−01
Ar XIII	$2s^2 2p^2 - 2s2p^2(^4P)3p$	$^3P - ^3D^o$	*27.559*	*15444*	*3644000*	9	15	1.05E+12	1.99E−01
			27.608	21893	3644000	5	7	1.04E+12	1.66E−01
			27.608	21893	3644000	5	5	2.61E+11	2.98E−02
			27.608	21893	3644000	5	3	2.90E+10	1.99E−03
			27.517	9845	3644000	3	5	7.88E+11	1.49E−01
			27.517	9845	3644000	3	3	4.40E+11	4.99E−02
			27.442	0	3644000	1	3	5.90E+11	2.00E−01
Ar XIII	$2s^2 2p^2 - 2s2p^2(^4P)3p$	$^3P - ^3P^o$	*26.485*	*15444*	*3791200*	9	9	1.16E+12	1.22E−01
			26.530	21893	3791200	5	5	8.70E+11	9.18E−02
			26.446	9845	3791200	3	5	2.93E+11	5.12E−02
				9845		3	3	2.72E+11	2.86E−02
				21893		5	3	4.53E+11	2.86E−02
				9845		3	1	1.09E+12	3.81E−02
				0		1	3	3.61E+11	1.14E−01
Ar XIII	$2s^2 2p^2 - 2s2p^2(^4P)3p$	$^3P - ^3S^o$	*26.315*	*15444*	3815500	9	3	1.37E+12	4.74E−02
			26.360	21893	3815500	5	3	7.57E+11	4.73E−02
			26.277	9845	3815500	3	3	4.59E+11	4.75E−02
			26.209	0	3815500	1	3	1.54E+11	4.76E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar XIII	$2s^2 2p^2 - 2s^2 2p4s$	$^3P - ^3P^o$	*23.601*	*15444*	*4252600*	9	9	1.17E+11	9.81E−03
			23.637	21893	4252600	5	5	8.77E+10	7.35E−03
			23.570	9845	4252600	3	5	2.95E+10	4.10E−03
				9845		3	3	2.93E+10	2.45E−03
				21893		5	3	4.89E+10	2.45E−03
				9845		3	1	1.17E+11	3.27E−03
				0		1	3	3.92E+10	9.81E−03
Ar XIII	$2s^2 2p^2 - 2s^2 2p4d$	$^3P - ^3P^o$	*23.00*	*15444*	*4364000*	9	9	7.78E+11	6.17E−02
			23.03	21893	4364000	5	5	5.81E+11	4.62E−02
			22.97	9845	4364000	3	5	1.96E+11	2.58E−02
				9845		3	3	1.94E+11	1.54E−02
				21893		5	3	3.24E+11	1.54E−02
				9845		3	1	7.76E+11	2.05E−02
				0		1	3	2.59E+11	6.15E−02
Ar XIV	$2s^2 2p - 2s2p^2$	$^2P^o - ^2D$	*252.701*	*15105*	*410829*	6	10	3.24E+09	5.17E−02
			257.987	22657	410273	4	4	5.07E+08	5.06E−03
			257.372	22657	411200	4	6	3.07E+09	4.57E−02
			243.740	0	410273	2	4	3.01E+09	5.36E−02
Ar XIV	$2s^2 2p - 2s2p^2$	$^2P^o - ^2S$	*200.27*	*15105*	514430	6	2	1.32E+10	2.64E−02
			203.35	22657	514430	4	2	8.39E+09	2.60E−02
			194.39	0	514430	2	2	4.80E+09	2.72E−02
Ar XIV	$2s^2 2p - 2s2p^2$	$^2P^o - ^2P$	*186.42*	*15105*	*551520*	6	6	2.53E+10	1.32E−01
			191.36	22657	545230	4	2	7.80E+09	2.14E−02
			187.97	22657	554660	4	4	2.06E+10	1.09E−01
			183.41	0	545230	2	2	1.77E+10	8.94E−02
			180.29	0	554660	2	4	4.66E+09	4.54E−02
Ar XIV	$2s^2 2p - 2s^2 3s$	$^2P^o - ^2S$	*29.423*	*15105*	3413800	6	2	5.13E+11	2.22E−02
			29.489	22657	3413800	4	2	3.39E+11	2.21E−02
			29.293	0	3413800	2	2	1.73E+11	2.23E−02
Ar XIV	$2s^2 2p - 2s^2 3d$	$^2P^o - ^2D$	*27.577*	*15105*	*3641300*	6	10	3.43E+12	6.52E−01
			27.642	22657	3640300	4	4	5.67E+11	6.50E−02
			27.629	22657	3642000	4	6	3.41E+12	5.85E−01
			27.470	0	3640300	2	4	2.89E+12	6.54E−01
Ar XIV	$2s^2 2p - 2s2p(^3P^o)3p$	$^2P^o - ^2P$	*25.518*	*15105*	*3933900*	6	6	1.57E+12	1.53E−01
			25.567	22657	3933900	4	4	1.30E+12	1.27E−01
			25.420	0	3933900	2	4	2.63E+11	5.10E−02
				0		2	2	9.91E+11	9.67E−02
				22657		4	2	4.96E+11	2.42E−02
Ar XIV	$2s^2 2p - 2s^2 4d$	$^2P^o - ^2D$	*21.113*	*15105*	*4751500*	6	10	1.13E+12	1.26E−01
			21.147	22657	4751500	4	6	1.13E+12	1.14E−01
				0		2	4	9.35E+11	1.25E−01
				22657		4	4	1.87E+11	1.25E−02
Ar XV	$2s^2 - 2s2p$	$^1S - ^1P^o$	221.15	0	452180	1	3	9.32E+09	2.05E−01
Ar XV	$2s^2 - 2s3p$	$^1S - ^1P^o$	24.737	0	4042600	1	3	2.31E+12	6.36E−01
Ar XV	$2s^2 - 2p3d$	$^1S - ^1P^o$	22.373	0	4469600	1	3	1.47E+11	3.31E−02
Ar XV	$2s^2 - 2s4p$	$^1S - ^1P^o$	18.818	0	5314200	1	3	1.04E+12	1.66E−01
Ar XVI	$1s^2 2s - 1s^2 2p$	$^2S - ^2P^o$	*364.93*	0	*274030*	2	6	1.41E+09	8.42E−02
			389.14	0	256980	2	2	1.16E+09	2.63E−02
			353.92	0	282550	2	4	1.54E+09	5.79E−02
Ar XVII	$1s^2 - 1s2p$	$^1S - ^1P^o$	3.9488	0	25323950	1	3	1.11E+14	7.75E−01
Ar XVII	$1s^2 - 1s3p$	$^1S - ^1P^o$	3.3654	0	29713740	1	3	3.04E+13	1.55E−01
Ar XVII	$1s^2 - 1s4p$	$^1S - ^1P^o$	3.1996	0	31254280	1	3	1.24E+13	5.73E−02
Ar XVII	$1s^2 - 1s5p$	$^1S - ^1P^o$	3.1281	0	31967860	1	3	6.27E+12	2.76E−02
Ar XVII	$1s^2 - 1s6p$	$^1S - ^1P^o$	3.0950	0	32310000	1	3	3.60E+12	1.55E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ar XVIII	$1s-2p$	$^2S-^2P^o$	*3.7329*	0	*26788680*	2	6	6.64E+13	4.16E−01
			3.7365	0	[26762780]	2	2	6.64E+13	1.39E−01
			3.7311	0	[26801620]	2	4	6.64E+13	2.77E−01
Ar XVIII	$1s-3p$	$^2S-^2P^o$	*3.1506*	0	*31739780*	2	6	1.77E+13	7.90E−02
			3.1514	0	[31732100]	2	2	1.77E+13	2.63E−02
			3.1502	0	[31743610]	2	4	1.77E+13	5.27E−02
Ar XVIII	$1s-4p$	$^2S-^2P^o$	*2.9875*	0	*33473020*	2	6	7.22E+12	2.90E−02
			2.9878	0	[33469780]	2	2	7.23E+12	9.67E−03
			2.9873	0	[33474630]	2	4	7.21E+12	1.93E−02
Ar XVIII	$1s-5p$	$^2S-^2P^o$	*2.9176*	0	*34275060*	2	6	3.63E+12	1.39E−02
			2.9177	0	[34273400]	2	2	3.64E+12	4.65E−03
			2.9175	0	[34275890]	2	4	3.64E+12	9.30E−03
Ar XVIII	$1s-6p$	$^2S-^2P^o$	*2.8810*	0	*34709660*	2	6	2.09E+12	7.80E−03
			2.8810	0	[34709660]	2	4	2.09E+12	5.20E−03
			2.8810	0	[34709660]	2	2	2.09E+12	2.60E−03
Ar XVIII	$1s-7p$	$^2S-^2P^o$	*2.8594*	0	*34972570*	2	6	1.31E+12	4.82E−03
			2.8594	0	[34972570]	2	4	1.31E+12	3.21E−03
			2.8594	0	[34972570]	2	2	1.31E+12	1.60E−03
Ar XVIII	$1s-8p$	$^2S-^2P^o$	*2.8455*	0	*35143150*	2	6	8.76E+11	3.19E−03
			2.8455	0	[35143150]	2	4	8.73E+11	2.12E−03
			2.8455	0	[35143150]	2	2	8.73E+11	1.06E−03
Ar XVIII	$1s-9p$	$^2S-^2P^o$	*2.8361*	0	*35260060*	2	6	6.14E+11	2.22E−03
			2.8361	0	[35260060]	2	4	6.14E+11	1.48E−03
			2.8361	0	[35260060]	2	2	6.12E+11	7.38E−04
Ar XVIII	$1s-10p$	$^2S-^2P^o$	*2.8294*	0	*35343670*	2	6	4.44E+11	1.60E−03
			2.8294	0	[35343670]	2	4	4.46E+11	1.07E−03
			2.8294	0	[35343670]	2	2	4.46E+11	5.35E−04
Ca I	$3p^64s^2-3p^64s4p$	$^1S-^1P^o$	4227.9179	0	23652.304	1	3	2.41E+08	1.94E+00
Ca I	$3p^64s^2-3p^63d4p$	$^1S-^1P^o$	2722.4504	0	36731.615	1	3	6.03E+06	2.01E−02
Ca I	$3p^64s^2-3p^64s5p$	$^1S-^1P^o$	2399.2893	0	41679.008	1	3	5.95E+05	1.54E−03
Ca I	$3p^64s^2-3p^64s6p$	$^1S-^1P^o$	2276.1686	0	43933.477	1	3	4.63E+06	1.08E−02
Ca I	$3p^64s^2-3p^64s7p$	$^1S-^1P^o$	2201.4136	0	45425.358	1	3	8.63E+06	1.88E−02
Ca I	$3p^64s^2-3p^64s8p$	$^1S-^1P^o$	2151.4717	0	46479.813	1	3	9.75E+06	2.03E−02
Ca I	$3p^64s^2-3p^64s9p$	$^1S-^1P^o$	2119.3459	0	47184.370	1	3	7.62E+06	1.54E−02
Ca I	$3p^64s^2-3p^64s10p$	$^1S-^1P^o$	2098.103	0	47662.10	1	3	5.04E+06	9.97E−03
Ca I	$3p^64s^2-3p^64s11p$	$^1S-^1P^o$	2083.442	0	47997.49	1	3	3.20E+06	6.24E−03
Ca II	$3p^64s-3p^64p$	$^2S-^2P^o$	*3946.314*	0	*25340.10*	2	6	1.39E+08	9.72E−01
			3969.591	0	25191.51	2	2	1.36E+08	3.22E−01
			3934.777	0	25414.40	2	4	1.40E+08	6.50E−01
Ca II	$3p^64s-3p^65p$	$^2S-^2P^o$	*1650.568*	0	*60585.19*	2	6	7.09E+05	8.69E−04
			1651.991	0	60533.02	2	2	7.09E+05	2.90E−04
			1649.858	0	60611.28	2	4	7.09E+05	5.79E−04
Ca II	$3p^64s-3p^66p$	$^2S-^2P^o$	*1342.111*	0	*74509.47*	2	6	2.72E+06	2.20E−03
			1342.554	0	74484.92	2	2	2.71E+06	7.32E−04
			1341.890	0	74521.75	2	4	2.72E+06	1.47E−03
Ca III	$3s^23p^6-3s^23p^54s$	$^1S-^1P^o$	403.7201	0	247696.39	1	3	9.55E+09	7.00E−01
Ca III	$3s^23p^6-3s^23p^53d$	$^1S-^1P^o$	357.9692	0	279353.64	1	3	6.65E+10	3.83E+00
Ca III	$3s^23p^6-3s^23p^54d$	$^1S-^1P^o$	296.9570	0	336749.11	1	3	2.95E+10	1.17E+00

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca IV	$3s^2 3p^5 - 3s 3p^6$	^{2}P°$-^2$S	*660.5031*	*1039.4*	152439.1	6	2	1.34E+09	2.93E−02
			669.6982	3118.1	152439.1	2	2	4.30E+08	2.89E−02
			655.9997	0	152439.1	4	2	9.14E+08	2.95E−02
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4s^*$	^{2}P°$-^2$P	*454.0187*	*1039.4*	*221294.6*	6	6	2.82E+07	8.72E−04
			461.0947	3118.1	219993.3	2	2	1.80E+07	5.73E−04
			456.9816	3118.1	221945.3	2	4	4.62E+06	2.89E−04
			454.5593	0	219993.3	4	2	9.36E+06	1.45E−04
			450.5615	0	221945.3	4	4	2.41E+07	7.32E−04
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})3d^*$	^{2}P°$-^2$D	*437.8149*	*1039.4*	*229446.4*	6	10	1.40E+08	6.71E−03
			443.8158	3118.1	228436.8	2	4	1.12E+08	6.62E−03
			437.7578	0	228436.8	4	4	2.34E+07	6.72E−04
			434.5568	0	230119.5	4	6	1.43E+08	6.09E−03
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d^*$	^{2}P°$-^2$D	*371.3781*	*1039.4*	*270306.7*	6	10	6.21E+08	2.14E−02
			374.7367	3118.1	269972.1	2	4	5.03E+08	2.12E−02
			370.4086	0	269972.1	4	4	1.05E+08	2.15E−03
			369.6450	0	270529.8	4	6	6.31E+08	1.94E−02
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d$	^{2}P°$-^2$S	*342.5017*	*1039.4*	293008.7	6	2	7.66E+10	4.49E−01
			344.9577	3118.1	293008.7	2	2	2.50E+10	4.46E−01
			341.2868	0	293008.7	4	2	5.15E+10	4.50E−01
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})3d$	^{2}P°$-^2$P	*341.0026*	*1039.4*	*294292.3*	6	6	3.59E+10	6.26E−01
			343.9331	3118.1	293872.3	2	4	5.84E+09	2.07E−01
			342.4492	3118.1	295132.2	2	2	2.36E+10	4.15E−01
			340.2839	0	293872.3	4	4	3.01E+10	5.22E−01
			338.8312	0	295132.2	4	2	1.22E+10	1.05E−01
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{S})3d^*$	^{2}P°$-^2$D	*331.9698*	*1039.4*	*302271.6*	6	10	2.95E+10	8.13E−01
			332.5213	3118.1	303850.7	2	4	2.45E+10	8.12E−01
			331.9845	0	301218.9	4	6	2.95E+10	7.32E−01
			329.1090	0	303850.7	4	4	5.05E+09	8.20E−02
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d^*$	^{2}P°$-^2$P	*331.8881*	*1039.4*	*302345.7*	6	6	4.43E+10	7.32E−01
			334.8960	3118.1	301718.3	2	4	7.20E+09	2.42E−01
			332.7982	3118.1	303600.5	2	2	2.93E+10	4.87E−01
			331.4350	0	301718.3	4	4	3.71E+10	6.11E−01
			329.3802	0	303600.5	4	2	1.51E+10	1.23E−01
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4s$	^{2}P°$-^2$D	*320.9949*	*1039.4*	*312570.8*	6	10	6.10E+10	1.57E+00
			323.0680	3118.1	312650.5	2	4	4.98E+10	1.56E+00
			319.9820	0	312517.6	4	6	6.12E+10	1.41E+00
			319.8460	0	312650.5	4	4	1.03E+10	1.58E−01
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{S})4s$	^{2}P°$-^2$S	*297.4662*	*1039.4*	337212.0	6	2	3.60E+08	1.59E−03
			299.3170	3118.1	337212.0	2	2	1.18E+08	1.58E−03
			296.5494	0	337212.0	4	2	2.41E+08	1.59E−03
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d$	^{2}P°$-^2$D	*249.7381*	*1039.4*	*401458.8*	6	10	4.30E+09	6.70E−02
			251.7339	3118.1	400362.9	2	4	3.50E+09	6.65E−02
			249.7734	0	400362.9	4	4	7.16E+08	6.70E−03
			248.6391	0	402189.4	4	6	4.36E+09	6.06E−02
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})5s^*$	^{2}P°$-^2$P	*249.2672*	*1039.4*	*402215.4*	6	6	1.54E+09	1.43E−02
			251.3695	3118.1	400938.9	2	2	1.00E+09	9.47E−03
			250.1654	3118.1	402853.6	2	4	2.54E+08	4.76E−03
			249.4146	0	400938.9	4	2	5.13E+08	2.39E−03
			248.2291	0	402853.6	4	4	1.30E+09	1.20E−02
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	^{2}P°$-^2$S	*243.0044*	*1039.4*	412554.5	6	2	2.35E+09	6.94E−03
			244.2382	3118.1	412554.5	2	2	7.73E+08	6.91E−03
			242.3922	0	412554.5	4	2	1.58E+09	6.96E−03
Ca IV	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d^*$	^{2}P°$-^2$P	*241.9046*	*1039.4*	*414425.4*	6	6	6.62E+09	5.81E−02
			244.2387	3118.1	412553.7	2	4	1.07E+09	1.91E−02
			242.3927	0	412553.7	4	4	5.48E+09	4.83E−02
			240.9344	3118.1	418168.9	2	2	4.46E+09	3.88E−02
			239.1378	0	418168.9	4	2	2.28E+09	9.79E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*240.9577*	*1039.4*	*416049.9*	6	6	2.55E+08	2.22E−03
			243.1023	3118.1	414467.6	2	2	1.66E+08	1.47E−03
			241.7076	3118.1	416841.1	2	4	4.21E+07	7.38E−04
			241.2734	0	414467.6	4	2	8.48E+07	3.70E−04
			239.8996	0	416841.1	4	4	2.16E+08	1.86E−03
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*240.4448*	*1039.4*	*416935.2*	6	10	3.13E+09	4.52E−02
			241.3362	3118.1	417477.9	2	4	2.58E+09	4.50E−02
			240.0537	0	416573.4	4	6	3.15E+09	4.08E−02
			239.5336	0	417477.9	4	4	5.28E+08	4.54E−03
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{D})5s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*232.5417*	*1039.4*	*431069.8*	6	10	1.12E+09	1.51E−02
			233.6676	3118.1	431076.5	2	4	9.16E+08	1.50E−02
			231.9834	0	431065.3	4	6	1.12E+09	1.36E−02
			231.9774	0	431076.5	4	4	1.87E+08	1.51E−03
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{S})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*227.8260*	*1039.4*	*439970.8*	6	10	4.06E+08	5.26E−03
			228.8797	3118.1	440028.8	2	4	3.33E+08	5.23E−03
			227.3078	0	439932.1	4	6	4.08E+08	4.74E−03
			227.2579	0	440028.8	4	4	6.81E+07	5.27E−04
Ca IV	$3s^2 3p^5 - 3p^4(^1\mathrm{S})5s$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*219.3624*	*1039.4*	456906.0	6	2	1.40E+09	3.36E−03
			220.3673	3118.1	456906.0	2	2	4.60E+08	3.35E−03
			218.8634	0	456906.0	4	2	9.39E+08	3.37E−03
Ca V	$3s^2 3p^4 - 3s3p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*646.9954*	*1165.5*	*155726.1*	9	9	8.68E+08	5.45E−02
			656.7450	2404.7	154670.8	3	5	2.08E+08	2.24E−02
			651.5312	3275.6	156760.2	1	3	2.83E+08	5.41E−02
			647.8551	2404.7	156760.2	3	3	2.18E+08	1.37E−02
			646.5344	0	154670.8	5	5	6.54E+08	4.10E−02
			643.1042	2404.7	157900.5	3	1	8.85E+08	1.83E−02
			637.9170	0	156760.2	5	3	3.80E+08	1.39E−02
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*341.741*	*1165.5*	293785	9	3	4.83E+10	2.82E−01
			344.223	3275.6	293785	1	3	5.25E+09	2.80E−01
			343.194	2404.7	293785	3	3	1.59E+10	2.80E−01
			340.385	0	293785	5	3	2.72E+10	2.83E−01
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)3d$:	$^3\mathrm{P} - ^3\mathrm{P}^o$	*335.849*	*1165.5*	*298918*	9	9	9.52E+08	1.61E−02
			338.056	2404.7	298214	3	5	2.33E+08	6.66E−03
			337.543	3275.6	299534	1	3	3.12E+08	1.60E−02
			336.554	2404.7	299534	3	3	2.37E+08	4.02E−03
			335.357	2404.7	300594	3	1	9.55E+08	5.37E−03
			335.330	0	298214	5	5	7.18E+08	1.21E−02
			333.852	0	299534	5	3	4.04E+08	4.05E−03
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)3d$:	$^3\mathrm{P} - ^3\mathrm{D}^o$	*324.548*	*1165.5*	*309287*	9	15	4.41E+08	1.16E−02
			325.281	2404.7	309831	3	5	3.28E+08	8.67E−03
			325.026	3275.6	310943	1	3	2.44E+08	1.16E−02
			324.477	0	308188	5	7	4.40E+08	9.73E−03
			324.109	2404.7	310943	3	3	1.84E+08	2.90E−03
			322.757	0	309831	5	5	1.12E+08	1.75E−03
			321.602	0	310943	5	3	1.26E+07	1.17E−04
Ca V	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)4s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*285.920*	*1165.5*	350914	9	3	1.61E+10	6.56E−02
			287.655	3275.6	350914	1	3	1.75E+09	6.52E−02
			286.936	2404.7	350914	3	3	5.29E+09	6.53E−02
			284.970	0	350914	5	3	9.01E+09	6.58E−02
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)4s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*271.273*	*1165.5*	*369798*	9	15	4.77E+09	8.77E−02
			272.990	3275.6	369590	1	3	2.60E+09	8.71E−02
			272.342	2404.7	369590	3	3	1.97E+09	2.19E−02
			272.263	2404.7	369696	3	5	3.54E+09	6.55E−02
			270.570	0	369590	5	3	1.33E+08	8.79E−04
			270.493	0	369696	5	5	1.19E+09	1.31E−02
			270.300	0	369959	5	7	4.83E+09	7.40E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)4s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*258.882*	*1165.5*	*387442*	9	9	5.11E+09	5.13E−02
			260.450	3275.6	387226	1	3	1.67E+09	5.10E−02
			259.987	2404.7	387039	3	1	5.03E+09	1.70E−02
			259.861	2404.7	387226	3	3	1.26E+09	1.28E−02
			259.574	2404.7	387652	3	5	1.27E+09	2.13E−02
			258.247	0	387226	5	3	2.15E+09	1.29E−02
			257.963	0	387652	5	5	3.87E+09	3.86E−02
Ca V	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)5s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*200.015*	*1165.5*	501127	9	3	8.50E+09	1.70E−02
			200.863	3275.6	501127	1	3	9.31E+08	1.69E−02
			200.512	2404.7	501127	3	3	2.82E+09	1.70E−02
			199.550	0	501127	5	3	4.75E+09	1.70E−02
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)5s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*190.944*	*1165.5*	*524878*	9	15	2.06E+09	1.88E−02
			191.800	3275.6	524651	1	3	1.13E+09	1.87E−02
			191.481	2404.7	524651	3	3	8.55E+08	4.70E−03
			191.437	2404.7	524770	3	5	1.54E+09	1.41E−02
			190.603	0	524651	5	3	5.78E+07	1.89E−04
			190.560	0	524770	5	5	5.20E+08	2.83E−03
			190.457	0	525053	5	7	2.09E+09	1.59E−02
Ca V	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)5s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*184.729*	*1165.5*	*542500*	9	9	2.44E+09	1.25E−02
			185.538	3275.6	542249	1	3	8.07E+08	1.25E−02
			185.239	2404.7	542249	3	3	6.06E+08	3.12E−03
			185.101	2404.7	542650	3	5	6.07E+08	5.20E−03
			184.417	0	542249	5	3	1.02E+09	3.13E−03
			184.281	0	542650	5	5	1.84E+09	9.39E−03
				2404.7		3	1	2.47E+09	4.22E−03
Ca VI	$3s^2 3p^3 - 3s3p^4$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*637.1287*	0	*156954.2*	4	12	5.19E+08	9.48E−02
			641.9041	0	155786.5	4	6	5.08E+08	4.71E−02
			633.8441	0	157767.5	4	4	5.28E+08	3.18E−02
			629.6020	0	158830.5	4	2	5.38E+08	1.60E−02
Ca VI	$3s^2 3p^3 - 3p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*229.305*	0	*436100*	4	12	8.41E+09	1.99E−01
			230.495	0	433849	4	2	8.31E+09	3.31E−02
			229.734	0	435286	4	4	8.40E+09	6.65E−02
			228.628	0	437392	4	6	8.51E+09	1.00E−01
Ca VII	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*634.7257*	*2803.5*	*160351.9*	9	15	4.92E+08	4.95E−02
			640.6720	4071.4	160157.5	5	3	1.33E+07	4.90E−04
			640.4144	4071.4	160220.3	5	5	1.20E+08	7.36E−03
			639.1500	4071.4	160529.2	5	7	4.82E+08	4.13E−02
			630.7851	1624.9	160157.5	3	3	2.10E+08	1.25E−02
			630.5353	1624.9	160220.3	3	5	3.76E+08	3.74E−02
			624.3854	0	160157.5	1	3	2.87E+08	5.03E−02
Ca VII	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*547.6569*	*2803.5*	*185399.6*	9	9	1.46E+09	6.55E−02
			551.5066	4071.4	185392.9	5	3	5.96E+08	1.63E−02
			551.4479	4071.4	185412.2	5	5	1.07E+09	4.88E−02
			544.2719	1624.9	185356.6	3	1	1.49E+09	2.20E−02
			544.1644	1624.9	185392.9	3	3	3.72E+08	1.65E−02
			544.1072	1624.9	185412.2	3	5	3.72E+08	2.75E−02
			539.3950	0	185392.9	1	3	5.08E+08	6.65E−02
Ca VII	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*412.4783*	*2803.5*	245240.5	9	3	3.13E+10	2.66E−01
			414.6468	4071.4	245240.5	5	3	1.71E+10	2.65E−01
			410.4827	1624.9	245240.5	3	3	1.06E+10	2.68E−01
			407.7630	0	245240.5	1	3	3.61E+09	2.70E−01
Ca VII	$3s^2 3p^2 - 3s^2 3p3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*351.649*	*2803.5*	*287178*	9	9	2.47E+10	4.58E−01
			354.418	4071.4	286224	5	5	1.82E+10	3.42E−01
			352.003	4071.4	288160	5	3	1.03E+10	1.15E−01
			351.371	1624.9	286224	3	5	6.19E+09	1.91E−01
			348.997	1624.9	288160	3	3	6.35E+09	1.16E−01
			347.972	1624.9	289004	3	1	2.54E+10	1.54E−01
			347.029	0	288160	1	3	8.57E+09	4.64E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca VII	$3s^2 3p^2 - 3s^2 3p3d$	^{3}P$-^3$D^o	*341.286*	*2803.5*	*295813*	9	15	3.88E+10	1.13E+00
			343.564	4071.4	295138	5	3	1.05E+09	1.12E−02
			342.817	4071.4	295772	5	5	9.59E+09	1.69E−01
			342.395	4071.4	296132	5	7	3.85E+10	9.48E−01
			340.700	1624.9	295138	3	3	1.63E+10	2.84E−01
			339.966	1624.9	295772	3	5	2.95E+10	8.53E−01
			338.825	0	295138	1	3	2.21E+10	1.14E+00
Ca VII	$3s^2 3p^2 - 3s^2 3p4s$	^{3}P$-^3$P^o	*204.133*	*2803.5*	*492681*	9	9	2.30E+10	1.44E−01
			205.403	4071.4	490919	5	3	9.43E+09	3.58E−02
			204.736	1624.9	490059	3	1	2.29E+10	4.79E−02
			204.376	1624.9	490919	3	3	5.75E+09	3.60E−02
			204.002	4071.4	494262	5	5	1.73E+10	1.08E−01
			203.700	0	490919	1	3	7.72E+09	1.44E−01
			202.989	1624.9	494262	3	5	5.87E+09	6.04E−02
Ca VIII	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$D	*592.2237*	*2872.2*	*171727.3*	6	10	8.15E+08	7.14E−02
			597.8576	4308.3	171572.2	4	4	1.32E+08	7.07E−03
			596.9351	4308.3	171830.7	4	6	7.95E+08	6.37E−02
			582.8450	0	171572.2	2	4	7.12E+08	7.25E−02
Ca VIII	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$S	*467.9179*	*2872.2*	216584.9	6	2	6.91E+09	7.56E−02
			471.0835	4308.3	216584.9	4	2	4.51E+09	7.51E−02
			461.7127	0	216584.9	2	2	2.40E+09	7.66E−02
Ca VIII	$3s^2 3p - 3s3p^2$	^{2}P$^o-^2$P	*435.0441*	*2872.2*	*232734.0*	6	6	2.01E+10	5.70E−01
			441.0960	4308.3	231016.3	4	2	6.42E+09	9.37E−02
			436.1394	4308.3	233592.8	4	4	1.66E+10	4.74E−01
			432.8699	0	231016.3	2	2	1.36E+10	3.82E−01
			428.0954	0	233592.8	2	4	3.53E+09	1.94E−01
Ca VIII	$3s^2 3p - 3s^2 3d$	^{2}P$^o-^2$D	*357.633*	*2872.2*	*282489*	6	10	2.38E+10	7.61E−01
			359.651	4308.3	282356	4	4	3.90E+09	7.56E−02
			359.365	4308.3	282577	4	6	2.35E+10	6.82E−01
			354.163	0	282356	2	4	2.04E+10	7.68E−01
Ca VIII	$3s^2 3p - 3s^2 4s$	^{2}P$^o-^2$S	*183.672*	*2872.2*	547322	6	2	4.56E+10	7.68E−02
			184.157	4308.3	547322	4	2	3.01E+10	7.66E−02
			182.708	0	547322	2	2	1.54E+10	7.72E−02
Ca VIII	$3s^2 3p - 3s^2 4d$	^{2}P$^o-^2$D	*143.787*	*2872.2*	*698345*	6	10	2.21E+10	1.14E−01
			144.108	4308.3	698232	4	4	3.66E+09	1.14E−02
			144.069	4308.3	698420	4	6	2.19E+10	1.02E−01
			143.219	0	698232	2	4	1.87E+10	1.15E−01
Ca VIII	$3s^2 3p - 3s^2 5d$	^{2}P$^o-^2$D	*113.2689*	*2872.2*	*885727*	6	10	1.35E+10	4.33E−02
			113.4578	4308.3	885693	4	4	2.24E+09	4.32E−03
			113.4505	4308.3	885750	4	6	1.34E+10	3.89E−02
			112.9059	0	885693	2	4	1.14E+10	4.34E−02
Ca VIII	$3s^2 3p - 3s^2 6d$	^{2}P$^o-^2$D	*102.3457*	*2872.2*	*979953*	6	10	1.86E+09	4.87E−03
			102.5178	4308.3	979749	4	4	3.08E+08	4.86E−04
			102.4820	4308.3	980089	4	6	1.85E+09	4.38E−03
			102.0670	0	979749	2	4	1.56E+09	4.88E−03
Ca IX	$3s^2 - 3s3p$	^{1}S$-^1$P^o	466.240	0	214482	1	3	1.11E+10	1.09E+00
Ca IX	$3s^2 - 3p3d$	^{1}S$-^1$P^o	161.676	0	618520	1	3	1.64E+08	1.93E−03
Ca IX	$3s^2 - 3s4p$	^{1}S$-^1$P^o	120.147	0	832314	1	3	3.97E+10	2.58E−01
Ca IX	$3s^2 - 3s5p$	^{1}S$-^1$P^o	91.110	0	1097570	1	3	1.72E+10	6.44E−02
Ca IX	$3s^2 - 3s6p$	^{1}S$-^1$P^o	80.9173	0	1235830	1	3	1.30E+10	3.84E−02
Ca IX	$3s^2 - 3s7p$	^{1}S$-^1$P^o	76.028	0	1315300	1	3	9.23E+09	2.40E−02
Ca X	$2p^6 3s - 2p^6 3p$	^{2}S$-^2$P^o	*563.077*	0	*177596*	2	6	3.57E+09	5.09E−01
			574.010	0	174213	2	2	3.36E+09	1.66E−01
			557.765	0	179287	2	4	3.68E+09	3.43E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca X	$2p^6 3s - 2p^6 4p$	^{2}S$-^2$P^o	*111.042*	0	*900560*	2	6	2.89E+10	1.60E−01
			111.199	0	899290	2	2	2.88E+10	5.33E−02
			110.963	0	901200	2	4	2.90E+10	1.07E−01
Ca X	$2p^6 3s - 2p^6 5p$	^{2}S$-^2$P^o	*82.8187*	0	*1207460*	2	6	1.73E+10	5.34E−02
			82.8603	0	1206850	2	2	1.73E+10	1.78E−02
			82.7979	0	1207760	2	4	1.73E+10	3.56E−02
Ca X	$2p^6 3s - 2p^6 6p$	^{2}S$-^2$P^o	*73.1682*	0	*1366710*	2	6	1.05E+10	2.52E−02
			73.1872	0	1366360	2	2	1.04E+10	8.38E−03
			73.1588	0	1366890	2	4	1.05E+10	1.68E−02
Ca X	$2p^6 3s - 2p^6 7p$	^{2}S$-^2$P^o	*68.4969*	0	*1459920*	2	6	6.68E+09	1.41E−02
			68.4969	0	1459920	2	4	6.67E+09	9.39E−03
			68.4969	0	1459920	2	2	6.68E+09	4.70E−03
Ca X	$2p^6 3s - 2p^6 8p$	^{2}S$-^2$P^o	*65.8241*	0	*1519200*	2	6	4.49E+09	8.75E−03
			65.8241	0	1519200	2	4	4.49E+09	5.83E−03
			65.8241	0	1519200	2	2	4.50E+09	2.92E−03
Ca X	$2p^6 3s - 2p^6 9p$	^{2}S$-^2$P^o	*64.1330*	0	*1559260*	2	6	3.15E+09	5.83E−03
			64.1330	0	1559260	2	4	3.15E+09	3.89E−03
			64.1330	0	1559260	2	2	3.15E+09	1.94E−03
Ca XI	$2s^2 2p^6 - 2p^5 3s$	^{1}S$-^1$P^o	35.2116	0	2839976	1	3	4.16E+11	2.32E−01
Ca XI	$2s^2 2p^6 - 2p^5 3d$	^{1}S$-^1$P^o	30.4468	0	3284414	1	3	5.61E+12	2.34E+00
Ca XI	$2s^2 2p^6 - 2p^6 3p$	^{1}S$-^1$P^o	26.962	0	3708900	1	3	9.30E+11	3.04E−01
Ca XI	$2s^2 2p^6 - 2p^5 4s$	^{1}S$-^1$P^o	26.442	0	3781900	1	3	9.09E+10	2.86E−02
Ca XI	$2s^2 2p^6 - 2p^5 4d$	^{1}S$-^1$P^o	25.327	0	3948400	1	3	2.26E+12	6.52E−01
Ca XII	$2s^2 2p^5 - 2s 2p^6$	^{2}P$^o-^2$S	*143.06*	*10014*	709030	6	2	5.98E+10	6.12E−02
			147.28	30041	709030	2	2	1.83E+10	5.94E−02
			141.04	0	709030	4	2	4.16E+10	6.21E−02
Ca XII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3s$	^{2}P$^o-^2$P	*32.326*	*10014*	*3103500*	6	6	6.77E+11	1.06E−01
			32.597	30041	3097800	2	4	1.10E+11	3.50E−02
			32.417	30041	3114800	2	2	4.46E+11	7.02E−02
			32.281	0	3097800	4	4	5.65E+11	8.82E−02
			32.105	0	3114800	4	2	2.29E+11	1.77E−02
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3s$	^{2}P$^o-^2$D	*31.758*	*10014*	*3158800*	6	10	2.63E+11	6.62E−02
			31.956	30041	3159300	2	4	2.15E+11	6.57E−02
			31.661	0	3158500	4	6	2.65E+11	5.98E−02
			31.653	0	3159300	4	4	4.42E+10	6.64E−03
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3s$	^{2}P$^o-^2$S	*30.868*	*10014*	3249600	6	2	2.60E+11	1.24E−02
			31.060	30041	3249600	2	2	8.50E+10	1.23E−02
			30.773	0	3249600	4	2	1.75E+11	1.24E−02
Ca XII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P$^o-^2$P	*28.645*	*10014*	*3501000*	6	6	3.71E+11	4.56E−02
			28.930	30041	3486700	2	2	2.40E+11	3.01E−02
			28.751	30041	3508200	2	4	6.13E+10	1.52E−02
			28.680	0	3486700	4	2	1.23E+11	7.59E−03
			28.505	0	3508200	4	4	3.14E+11	3.82E−02
Ca XII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	^{2}P$^o-^2$D	*28.615*	*10014*	*3504700*	6	10	1.88E+12	3.84E−01
			28.864	30041	3494600	2	4	1.53E+12	3.81E−01
			28.616	0	3494600	4	4	3.13E+11	3.84E−02
			28.478	0	3511500	4	6	1.90E+12	3.47E−01
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	^{2}P$^o-^2$S	*28.175*	*10014*	3559300	6	2	4.41E+12	1.75E−01
			28.335	30041	3559300	2	2	1.45E+12	1.74E−01
			28.095	0	3559300	4	2	2.97E+12	1.76E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*28.051*	*10014*	*3574900*	6	6	5.41E+12	6.38E−01
			28.210	30041	3574900	2	4	8.88E+11	2.12E−01
			27.973	0	3574900	4	4	4.55E+12	5.34E−01
				30041		2	2	3.61E+12	4.26E−01
				0		4	2	1.80E+12	1.06E−01
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*28.020*	*10014*	*3578900*	6	10	4.35E+12	8.54E−01
			28.131	30041	3584900	2	4	3.58E+12	8.50E−01
			27.973	0	3574900	4	6	4.38E+12	7.70E−01
			27.895	0	3584900	4	4	7.35E+11	8.57E−02
Ca XII	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*27.475*	*10014*	*3649700*	6	10	9.65E+11	1.82E−01
			27.607	30041	3652300	2	4	7.92E+11	1.81E−01
			27.413	0	3647900	4	6	9.76E+11	1.65E−01
			27.380	0	3652300	4	4	1.63E+11	1.83E−02
Ca XIII	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*162.049*	*11363*	*628462*	9	9	2.72E+10	1.07E−01
			168.405	24460	618268	3	5	6.00E+09	4.25E−02
			164.109	28888	638238	1	3	8.67E+09	1.05E−01
			162.925	24460	638238	3	3	6.63E+09	2.64E−02
			161.742	0	618268	5	5	2.03E+10	7.98E−02
			159.835	24460	650105	3	1	2.80E+10	3.58E−02
			156.681	0	638238	5	3	1.24E+10	2.74E−02
Ca XIII	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*29.733*	*11363*	3374600	9	3	9.51E+11	4.20E−02
			29.889	28888	3374600	1	3	1.04E+11	4.17E−02
			29.849	24460	3374600	3	3	3.13E+11	4.18E−02
			29.633	0	3374600	5	3	5.33E+11	4.21E−02
Ca XIII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*29.035*	*11363*	*3455500*	9	15	3.07E+11	6.46E−02
			29.207	28888	3452700	1	3	1.68E+11	6.43E−02
			29.169	24460	3452700	3	3	1.26E+11	1.61E−02
			29.165	24460	3453200	3	5	2.27E+11	4.83E−02
			28.963	0	3452700	5	3	8.59E+09	6.48E−04
			28.959	0	3453200	5	5	7.73E+10	9.72E−03
			28.916	0	3458300	5	7	3.11E+11	5.45E−02
Ca XIII	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*26.81*	*11363*	*3741000*	9	15	1.34E+12	2.41E−01
			26.92	24460	3739000	3	5	9.99E+11	1.81E−01
			26.75	0	3739000	5	5	3.38E+11	3.63E−02
			26.72	0	3743000	5	7	1.36E+12	2.04E−01
				28888		1	3	7.45E+11	2.41E−01
				24460		3	3	5.60E+11	6.03E−02
				0		5	3	3.73E+10	2.41E−03
Ca XIII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*26.14*	*11363*	*3837000*	9	15	3.12E+12	5.32E−01
			26.32	28888	3828000	1	3	1.70E+12	5.29E−01
			26.29	24460	3828000	3	3	1.27E+12	1.32E−01
			26.22	24460	3838000	3	5	2.32E+12	3.98E−01
			26.12	0	3828000	5	3	8.68E+10	5.33E−03
			26.06	0	3838000	5	5	7.87E+11	8.01E−02
			26.03	0	3841000	5	7	3.16E+12	4.49E−01
Ca XIII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*26.04*	*11363*	*3851000*	9	9	4.92E+12	5.00E−01
			26.16	28888	3852000	1	3	1.62E+12	4.98E−01
			26.13	24460	3851000	3	5	1.22E+12	2.08E−01
			26.13	24460	3852000	3	3	1.22E+12	1.25E−01
			25.97	0	3851000	5	5	3.72E+12	3.76E−01
			25.96	0	3852000	5	3	2.08E+12	1.26E−01
				24460		3	1	4.90E+12	1.66E−01
Ca XIII	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*25.96*	*11363*	3864000	9	3	5.05E+12	1.70E−01
			26.07	28888	3864000	1	3	5.53E+11	1.69E−01
			26.04	24460	3864000	3	3	1.67E+12	1.70E−01
			25.88	0	3864000	5	3	2.84E+12	1.71E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca XIII	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3P^o$	*25.77*	*11363*	*3891000*	9	9	5.25E+11	5.23E−02
			25.88	28888	3893000	1	3	1.73E+11	5.21E−02
			25.87	24460	3890000	3	5	1.30E+11	2.18E−02
			25.85	24460	3893000	3	3	1.31E+11	1.31E−02
			25.71	0	3890000	5	5	3.98E+11	3.94E−02
			25.69	0	3893000	5	3	2.22E+11	1.32E−02
				24460		3	1	5.24E+11	1.74E−02
Ca XIII	$2s^2 2p^4 - 2p^3(^2P^o)3d$	$^3P - ^3D^o$	*25.60*	*11363*	*3917000*	9	15	3.41E+12	5.58E−01
			25.74	28888	3914000	1	3	1.86E+12	5.55E−01
			25.71	24460	3914000	3	3	1.40E+12	1.39E−01
			25.67	24460	3920000	3	5	2.53E+12	4.17E−01
			25.55	0	3914000	5	3	9.52E+10	5.59E−03
			25.53	0	3917000	5	7	3.44E+12	4.70E−01
			25.51	0	3920000	5	5	8.60E+11	8.39E−02
Ca XIV	$2s^2 2p^3 - 2s2p^4$	$^4S^o - ^4P$	*189.62*	0	*527370*	4	12	8.22E+09	1.33E−01
			193.87	0	515800	4	6	7.68E+09	6.49E−02
			186.61	0	535870	4	4	8.62E+09	4.50E−02
			183.46	0	545090	4	2	9.04E+09	2.28E−02
Ca XIV	$2s^2 2p^3 - 2p^2(^3P)3d$	$^4S^o - ^4P$	*24.114*	0	*4146900*	4	12	6.84E+12	1.79E+00
			24.133	0	4143700	4	6	6.83E+12	8.95E−01
			24.086	0	4151800	4	4	6.88E+12	5.98E−01
				0		4	2	6.84E+12	2.98E−01
Ca XV	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3D^o$	*211.55*	*25810*	*498510*	9	15	4.59E+09	5.13E−02
			217.03	35923	496680	5	5	1.06E+09	7.51E−03
			216.62	35923	497570	5	3	1.19E+08	5.01E−04
			215.37	35923	500230	5	7	4.34E+09	4.23E−02
			208.72	17559	496680	3	5	3.58E+09	3.90E−02
			208.33	17559	497570	3	3	2.00E+09	1.30E−02
			200.98	0	497570	1	3	2.97E+09	5.40E−02
Ca XV	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3P^o$	*179.06*	*25810*	*584270*	9	9	1.18E+10	5.69E−02
			182.86	35923	582780	5	3	4.65E+09	1.40E−02
			181.90	35923	585670	5	5	8.49E+09	4.21E−02
			177.25	17559	581730	3	1	1.22E+10	1.92E−02
			176.92	17559	582780	3	3	3.09E+09	1.45E−02
			176.02	17559	585670	3	5	3.13E+09	2.42E−02
			171.59	0	582780	1	3	4.49E+09	5.94E−02
Ca XV	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3S^o$	*142.23*	*25810*	728880	9	3	6.40E+10	6.47E−02
			144.31	35923	728880	5	3	3.41E+10	6.38E−02
			140.58	17559	728880	3	3	2.21E+10	6.55E−02
			137.20	0	728880	1	3	7.93E+09	6.71E−02
Ca XV	$2s^2 2p^2 - 2s^2 2p3d$	$^3P - ^3D^o$	*22.778*	*25810*	*4416100*	9	15	7.14E+12	9.26E−01
			22.917	35923	4399500	5	3	1.95E+11	9.20E−03
			22.854	35923	4411500	5	5	1.76E+12	1.38E−01
			22.821	17559	4399500	3	3	2.96E+12	2.31E−01
			22.777	35923	4426400	5	7	7.14E+12	7.78E−01
			22.759	17559	4411500	3	5	5.37E+12	6.95E−01
			22.730	0	4399500	1	3	3.99E+12	9.27E−01
Ca XV	$2s^2 2p^2 - 2s^2 2p3d$	$^3P - ^3P^o$	*22.680*	*25810*	*4435100*	9	9	3.96E+12	3.05E−01
			22.735	35923	4434500	5	3	1.63E+12	7.60E−02
			22.730	35923	4435400	5	5	2.96E+12	2.29E−01
			22.640	17559	4434500	3	3	9.93E+11	7.63E−02
			22.635	17559	4435400	3	5	9.92E+11	1.27E−01
			22.550	0	4434500	1	3	1.34E+12	3.06E−01
				17559		3	1	3.93E+12	1.01E−01
Ca XVI	$2s^2 2p - 2s2p^2$	$^2P^o - ^2D$	*219.04*	*24350*	*480880*	6	10	3.94E+09	4.72E−02
			225.78	36520	479420	4	4	5.99E+08	4.58E−03
			224.55	36520	481860	4	6	3.65E+09	4.14E−02
			208.59	0	479420	2	4	3.80E+09	4.96E−02
Ca XVI	$2s^2 2p - 2s2p^2$	$^2P^o - ^2S$	*176.11*	*24350*	592180	6	2	1.53E+10	2.37E−02
			179.97	36520	592180	4	2	9.56E+09	2.32E−02
			168.87	0	592180	2	2	5.78E+09	2.47E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca XVI	$2s^2 2p - 2s2p^2$	^{2}P^o–^{2}P	*161.98*	*24350*	*641690*	6	6	3.05E+10	1.20E−01
			167.44	36520	633760	4	2	9.18E+09	1.93E−02
			164.17	36520	645660	4	4	2.43E+10	9.83E−02
			157.79	0	633760	2	2	2.19E+10	8.18E−02
			154.88	0	645660	2	4	5.80E+09	4.17E−02
Ca XVI	$2s^2 2p - 2s^2 3d$	^{2}P^o–^{2}D	*21.56*	*24350*	*4663000*	6	10	5.68E+12	6.59E−01
			21.62	36520	4662000	4	4	9.38E+11	6.57E−02
			21.61	36520	4664000	4	6	5.64E+12	5.92E−01
			21.45	0	4662000	2	4	4.81E+12	6.63E−01
Ca XVI	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o–^{2}P	*21.00*	*24350*	*4787000*	6	6	2.27E+12	1.50E−01
			21.11	36520	4773000	4	2	7.45E+11	2.49E−02
			21.02	36520	4794000	4	4	1.89E+12	1.25E−01
			20.95	0	4773000	2	2	1.52E+12	1.00E−01
			20.86	0	4794000	2	4	3.86E+11	5.04E−02
Ca XVII	$2s^2 - 2s2p$	^{1}S–^{1}P^o	192.82	0	518620	1	3	1.11E+10	1.85E−01
Ca XVII	$2s^2 - 2s3p$	^{1}S–^{1}P^o	19.56	0	5113000	1	3	3.80E+12	6.54E−01
Ca XVIII	$1s^2 2s - 1s^2 2p$	^{2}S–^{2}P^o	*315.161*	0	*317298*	2	6	1.73E+09	7.74E−02
			344.760	0	290057	2	2	1.32E+09	2.36E−02
			302.190	0	330918	2	4	1.96E+09	5.38E−02
Ca XVIII	$1s^2 2s - 1s^2 3p$	^{2}S–^{2}P^o	*18.705*	0	*5346300*	2	6	2.37E+12	3.73E−01
			18.732	0	5338500	2	2	2.36E+12	1.24E−01
			18.691	0	5350200	2	4	2.38E+12	2.49E−01
Ca XVIII	$1s^2 2s - 1s^2 4p$	^{2}S–^{2}P^o	*14.052*	0	*7116300*	2	6	1.06E+12	9.39E−02
			14.059	0	7112700	2	2	1.06E+12	3.13E−02
			14.049	0	7118100	2	4	1.06E+12	6.26E−02
Ca XVIII	$1s^2 2s - 1s^2 5p$	^{2}S–^{2}P^o	*12.636*	0	*7913900*	2	6	5.42E+11	3.89E−02
			12.636	0	7913900	2	4	5.43E+11	2.60E−02
			12.636	0	7913900	2	2	5.43E+11	1.30E−02
Ca XVIII	$1s^2 2s - 1s^2 6p$	^{2}S–^{2}P^o	*11.99*	0	*8341000*	2	6	3.12E+11	2.02E−02
			11.99	0	8341000	2	4	3.13E+11	1.35E−02
			11.99	0	8341000	2	2	3.13E+11	6.74E−03
Ca XVIII	$1s^2 2s - 1s^2 7p$	^{2}S–^{2}P^o	*11.62*	0	*8605000*	2	6	1.98E+11	1.20E−02
			11.62	0	8605000	2	4	1.97E+11	7.98E−03
			11.62	0	8605000	2	2	1.97E+11	3.99E−03
Ca XIX	$1s^2 - 1s2p$	^{1}S–^{1}P^o	3.1772	0	[31473810]	1	3	1.72E+14	7.82E−01
Ca XIX	$1s^2 - 1s3p$	^{1}S–^{1}P^o	2.7054	0	[36962850]	1	3	4.71E+13	1.55E−01
Ca XIX	$1s^2 - 1s4p$	^{1}S–^{1}P^o	2.5714	0	[38888680]	1	3	1.93E+13	5.75E−02
Ca XIX	$1s^2 - 1s5p$	^{1}S–^{1}P^o	2.5138	0	[39780630]	1	3	9.75E+12	2.77E−02
Ca XX	$1s - 2p$	^{2}S–^{2}P^o	*3.0203*	0	*33109270*	2	6	1.01E+14	4.16E−01
			3.0239	0	[33069710]	2	2	1.01E+14	1.39E−01
			3.0185	0	[33129060]	2	4	1.01E+14	2.77E−01
Ca XX	$1s - 3p$	^{2}S–^{2}P^o	*2.5494*	0	*39225540*	2	6	2.70E+13	7.90E−02
			2.5501	0	[39213810]	2	2	2.70E+13	2.63E−02
			2.5490	0	[39231400]	2	4	2.70E+13	5.27E−02
Ca XX	$1s - 4p$	^{2}S–^{2}P^o	*2.4174*	0	*41366770*	2	6	1.10E+13	2.90E−02
			2.4177	0	[41361830]	2	2	1.10E+13	9.67E−03
			2.4173	0	[41369250]	2	4	1.10E+13	1.93E−02
Ca XX	$1s - 5p$	^{2}S–^{2}P^o	*2.3609*	0	*42357550*	2	6	5.54E+12	1.39E−02
			2.3610	0	[42355020]	2	2	5.56E+12	4.65E−03
			2.3608	0	[42358820]	2	4	5.56E+12	9.30E−03
Ca XX	$1s - 6p$	^{2}S–^{2}P^o	*2.3313*	0	*42894100*	2	6	3.19E+12	7.80E−03
			2.3313	0	[42894100]	2	4	3.19E+12	5.20E−03
			2.3313	0	[42894100]	2	2	3.19E+12	2.60E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Ca XX	$1s-7p$	^{2}S$-^2$P^o	*2.3138*	0	*43218950*	2	6	2.00E+12	4.82E−03
			2.3138	0	[43218950]	2	4	2.00E+12	3.21E−03
			2.3138	0	[43218950]	2	2	1.99E+12	1.60E−03
Ca XX	$1s-8p$	^{2}S$-^2$P^o	*2.3026*	0	*43429690*	2	6	1.34E+12	3.19E−03
			2.3026	0	[43429690]	2	4	1.33E+12	2.12E−03
			2.3026	0	[43429690]	2	2	1.33E+12	1.06E−03
Ca XX	$1s-9p$	^{2}S$-^2$P^o	*2.2949*	0	*43574120*	2	6	9.37E+11	2.22E−03
			2.2949	0	[43574120]	2	4	9.37E+11	1.48E−03
			2.2949	0	[43574120]	2	2	9.35E+11	7.38E−04
Ca XX	$1s-10p$	^{2}S$-^2$P^o	*2.2895*	0	*43677400*	2	6	6.79E+11	1.60E−03
			2.2895	0	[43677400]	2	4	6.81E+11	1.07E−03
			2.2895	0	[43677400]	2	2	6.81E+11	5.35E−04
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^3\mathrm{P}^o)$	^{5}D$-^5$D^o	*3883.8319*	*402.961*	*26150.728*	25	25	1.00E+07	2.26E−02
			3931.4095	704.007	26140.177	5	7	1.58E+06	5.14E−03
			3929.0319	888.132	26339.694	3	5	2.22E+06	8.57E−03
			3924.0224	415.933	25899.987	7	9	1.08E+06	3.19E−03
			3921.3679	978.074	26479.379	1	3	2.60E+06	1.79E−02
			3907.5861	888.132	26479.379	3	3	8.32E+05	1.90E−03
			3900.8122	704.007	26339.694	5	5	2.58E+06	5.89E−03
			3896.7600	888.132	26550.477	3	1	9.39E+06	7.13E−03
			3887.3834	415.933	26140.177	7	7	5.29E+06	1.20E−02
			3879.6724	704.007	26479.379	5	3	6.60E+06	8.93E−03
			3861.0058	0	25899.987	9	9	9.69E+06	2.17E−02
			3857.4650	415.933	26339.694	7	5	4.64E+06	7.39E−03
			3825.5288	0	26140.177	9	7	2.83E+06	4.83E−03
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^3\mathrm{P}^o)$	^{5}D$-^5$F^o	*3729.0473*	*402.961*	*27219.462*	25	35	1.54E+07	4.48E−02
			3749.3276	888.132	27559.581	3	5	9.15E+06	3.21E−02
			3746.9642	978.074	27666.346	1	3	7.32E+06	4.62E−02
			3746.6259	704.007	27394.689	5	7	1.15E+07	3.39E−02
			3738.1941	415.933	27166.818	7	9	1.41E+07	3.81E−02
			3734.3790	888.132	27666.346	3	3	6.20E+06	1.30E−02
			3723.6218	704.007	27559.581	5	5	4.97E+06	1.03E−02
			3720.9928	0	26874.548	9	11	1.62E+07	4.12E−02
			3708.8770	704.007	27666.346	5	3	7.22E+05	8.93E−04
			3706.6201	415.933	27394.689	7	7	3.21E+06	6.62E−03
			3684.1032	415.933	27559.581	7	5	2.83E+05	4.12E−04
			3680.9611	0	27166.818	9	9	1.37E+06	2.80E−03
			3650.3426	0	27394.689	9	7	4.50E+04	6.99E−05
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^3\mathrm{P}^o)$	^{5}D$-^5$P^o	*3457.0723*	*402.961*	*29329.171*	25	15	2.50E+07	2.69E−02
			3527.0488	704.007	29056.322	5	7	1.13E+06	2.96E−03
			3498.8414	888.132	29469.022	3	5	3.07E+06	9.39E−03
			3491.5727	415.933	29056.322	7	7	6.07E+06	1.11E−02
			3477.6972	978.074	29732.734	1	3	5.68E+06	3.09E−02
			3476.4453	704.007	29469.022	5	5	9.84E+06	1.78E−02
			3466.8532	888.132	29732.734	3	3	1.19E+07	2.15E−02
			3444.8634	704.007	29732.734	5	3	7.99E+06	8.53E−03
			3441.9748	415.933	29469.022	7	5	1.23E+07	1.57E−02
			3441.5918	0	29056.322	9	7	1.72E+07	2.38E−02
Fe I	$3d^64s^2 - 3d^7(^4\mathrm{F})4p$	^{5}D$-^5$D^o	*3021.0749*	*402.961*	*33503.762*	25	25	9.68E+07	1.33E−01
			3059.9750	415.933	33095.939	7	9	1.62E+07	2.92E−02
			3048.4911	704.007	33507.121	5	7	2.82E+07	5.51E−02
			3038.2727	888.132	33801.570	3	5	2.88E+07	6.65E−02
			3026.7235	978.074	34017.101	1	3	3.51E+07	1.45E−01
			3021.9526	415.933	33507.121	7	7	4.55E+07	6.24E−02
			3021.5187	0	33095.939	9	9	7.58E+07	1.04E−01
			3021.3705	704.007	33801.570	5	5	1.93E+07	2.64E−02
			3018.5063	888.132	34017.101	3	3	6.88E+06	9.39E−03
			3009.0148	888.132	34121.601	3	1	1.06E+08	4.82E−02
			3001.8226	704.007	34017.101	5	3	6.34E+07	5.14E−02
			2995.3000	415.933	33801.570	7	5	4.39E+07	4.22E−02
			2984.4402	0	33507.121	9	7	2.81E+07	2.92E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe I	$3d^64s^2 - 3d^7(^4\mathrm{F})4p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*2966.0638*	*402.961*	*34117.677*	25	35	3.16E+07	5.83E−02
			2974.1032	415.933	34039.514	7	9	1.83E+07	3.13E−02
			2974.0004	704.007	34328.750	5	7	1.36E+07	2.52E−02
			2970.9668	888.132	34547.209	3	5	1.12E+07	2.47E−02
			2967.7646	0	33695.395	9	11	2.74E+07	4.42E−02
			2966.1205	978.074	34692.146	1	3	1.16E+07	4.57E−02
			2958.2286	888.132	34692.146	3	3	1.76E+07	2.31E−02
			2954.8032	704.007	34547.209	5	5	1.88E+07	2.46E−02
			2948.7376	415.933	34328.750	7	7	1.82E+07	2.37E−02
			2942.2029	704.007	34692.146	5	3	5.12E+06	3.99E−03
			2937.7623	0	34039.514	9	9	1.39E+07	1.80E−02
			2929.8641	415.933	34547.209	7	5	5.15E+06	4.73E−03
			2913.0102	0	34328.750	9	7	2.63E+06	2.60E−03
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^1\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{P}^o$	*2730.5453*	*402.961*	*37025.682*	25	15	1.84E+08	1.24E−01
			2772.9285	704.007	36766.964	5	7	4.12E+06	6.65E−03
			2757.1427	888.132	37157.564	3	5	2.01E+07	3.82E−02
			2750.9536	415.933	36766.964	7	7	3.89E+07	4.41E−02
			2744.8790	978.074	37409.552	1	3	3.55E+07	1.20E−01
			2743.2165	704.007	37157.564	5	5	6.29E+07	7.10E−02
			2738.1192	888.132	37409.552	3	3	8.36E+07	9.39E−02
			2724.3840	704.007	37409.552	5	3	6.40E+07	4.28E−02
			2721.7082	415.933	37157.564	7	5	1.06E+08	8.41E−02
			2719.8329	0	36766.964	9	7	1.38E+08	1.19E−01
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^1\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{D}^o$	*2527.2727*	*402.961*	*39971.306*	25	25	3.25E+08	3.11E−01
			2550.3784	415.933	39625.801	7	9	3.60E+07	4.52E−02
			2546.7427	704.007	39969.850	5	7	6.72E+07	9.14E−02
			2541.7352	888.132	40231.333	3	5	9.22E+07	1.49E−01
			2536.3689	978.074	40404.515	1	3	9.74E+07	2.82E−01
			2530.5960	888.132	40404.515	3	3	3.84E+07	3.69E−02
			2529.8954	704.007	40231.333	5	5	9.75E+07	9.35E−02
			2528.1946	415.933	39969.850	7	7	1.88E+08	1.80E−01
			2525.0517	888.132	40491.281	3	1	3.39E+08	1.08E−01
			2523.6083	0	39625.801	9	9	2.92E+08	2.79E−01
			2518.8595	704.007	40404.515	5	3	1.88E+08	1.07E−01
			2511.5910	415.933	40231.333	7	5	1.30E+08	8.81E−02
			2501.8858	0	39969.850	9	7	6.80E+07	4.96E−02
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^1\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{F}^o$	*2484.9947*	*402.961*	*40644.496*	25	35	4.80E+08	6.22E−01
			2491.9065	888.132	41018.048	3	5	2.90E+08	4.50E−01
			2491.3957	704.007	40842.151	5	7	3.44E+08	4.48E−01
			2490.5036	978.074	41130.596	1	3	2.31E+08	6.46E−01
			2488.8936	415.933	40594.429	7	9	4.24E+08	5.07E−01
			2484.9373	888.132	41130.596	3	3	2.27E+08	2.10E−01
			2484.0209	0	40257.311	9	11	4.81E+08	5.44E−01
			2480.5253	704.007	41018.048	5	5	1.72E+08	1.59E−01
			2473.6422	415.933	40842.151	7	7	1.30E+08	1.19E−01
			2473.6195	704.007	41130.596	5	3	2.09E+07	1.15E−02
			2463.3922	0	40594.429	9	9	5.85E+07	5.32E−02
			2462.9259	415.933	41018.048	7	5	1.10E+07	7.16E−03
			2448.4509	0	40842.151	9	7	3.32E+06	2.32E−03
Fe I	$3d^64s^2 - 3d^6(^3\mathrm{P})4s4p(^3\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{P}^o$	*2361.3840*	*402.961*	*42751.007*	25	15		
			2390.7013	704.007	42532.738	5	7	4.49E+06	5.38E−03
			2382.5610	888.132	42859.775	3	5	4.38E+06	6.21E−03
			2375.2435	978.074	43079.020	1	3	3.13E+06	7.94E−03
			2374.3491	415.933	42532.738	7	7	6.58E+06	5.56E−03
			2372.1546	704.007	42859.775	5	5	2.66E+06	2.24E−03
			2370.1800	888.132	43079.020	3	3	2.56E+06	2.15E−03
			2351.1301	0	42532.738	9	7	1.61E+05	1.04E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe I	$3d^64s^2 - 3d^6(^3\mathrm{P})4s4p(^3\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{D}^o$	*2298.8703*	*402.961*	*43902.588*	25	25	3.86E+07	3.05E−02
			2321.0705	415.933	43499.502	7	9	1.41E+07	1.46E−02
			2313.8155	704.007	43922.665	5	7	1.18E+07	1.32E−02
			2309.7092	888.132	44183.625	3	5	1.02E+07	1.36E−02
			2302.3924	978.074	44411.157	1	3	8.76E+06	2.09E−02
			2299.9282	704.007	44183.625	5	5	6.95E+06	5.51E−03
			2298.8769	0	43499.502	9	9	3.07E+07	2.43E−02
			2298.4949	415.933	43922.665	7	7	1.43E+07	1.13E−02
			2297.6344	888.132	44411.157	3	3	4.02E+06	3.18E−03
			2295.1151	888.132	44458.931	3	1	3.57E+07	9.39E−03
			2287.9552	704.007	44411.157	5	3	2.23E+07	1.05E−02
			2284.7903	415.933	44183.625	7	5	1.28E+07	7.16E−03
			2276.7289	0	43922.665	9	7	1.24E+07	7.51E−03
Fe I	$3d^64s^2 - 3d^6(^3\mathrm{F})4s4p(^3\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{D}^o$	*2277.4445*	*402.961*	*44311.824*	25	25		
			2300.8501	704.007	44166.203	5	7	4.96E+06	5.51E−03
			2293.2314	415.933	44022.522	7	9	2.94E+06	2.98E−03
			2284.3599	888.132	44664.072	3	5	1.54E+06	2.01E−03
			2284.0088	978.074	44760.743	1	3	2.57E+06	6.03E−03
			2275.8946	888.132	44826.897	3	1	6.16E+06	1.60E−03
			2259.9821	415.933	44664.072	7	5	1.28E+06	7.00E−04
Fe I	$3d^64s^2 - 3d^6(^5\mathrm{D})4s4p(^3\mathrm{P}^o)$	$^5\mathrm{D}-^5\mathrm{F}^o$	*2274.5970*	*402.961*	*44366.792*	25	35		
			2304.2898	888.132	44285.451	3	5	4.79E+06	6.35E−03
			2304.1334	978.074	44378.339	1	3	7.28E+06	1.74E−02
			2299.3682	888.132	44378.339	3	3	1.60E+06	1.27E−03
			2294.5545	704.007	44285.451	5	5	1.08E+06	8.53E−04
			2280.6408	704.007	44551.332	5	7	1.87E+06	2.05E−03
			2272.7718	415.933	44415.071	7	9	2.93E+06	2.92E−03
			2265.7550	415.933	44551.332	7	7	1.44E+06	1.11E−03
			2260.2097	0	44243.682	9	11	5.68E+06	5.32E−03
			2251.4880	0	44415.071	9	9	1.22E+06	9.24E−04
Fe I	$3d^64s^2 - 3d^7(^4\mathrm{P})4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*2181.1391*	*402.961*	*46250.564*	25	15		
			2201.4114	888.132	46313.534	3	5	2.82E+07	3.41E−02
			2196.7282	888.132	46410.378	3	3	1.18E+08	8.57E−02
			2192.5244	704.007	46313.534	5	5	1.16E+08	8.34E−02
			2167.4534	0	46137.094	9	7	2.74E+08	1.50E−01
Fe I	$3d^64s^2 - 3d^7(^4\mathrm{P})4p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*2153.7349*	*402.961*	*46833.931*	25	25		
			2171.9780	704.007	46744.990	5	7	5.07E+06	5.02E−03
			2139.2667	0	46744.990	9	7	2.81E+06	1.50E−03
Fe I	$3d^64s^2 - 3d^54s^2(^6\mathrm{S})4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*2096.7042*	*402.961*	*48096.860*	25	15		
			2113.6379	978.074	48289.868	1	3	1.89E+07	3.80E−02
			2103.0207	415.933	47966.582	7	7	8.78E+06	5.82E−03
			2084.7848	0	47966.582	9	7	3.72E+07	1.89E−02
Fe I	$3d^64s^2 - 3d^64s(^6\mathrm{D})5p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*1959.8832*	*402.961*	*51426.409*	25	35		
			1937.2684	0	51619.073	9	7	2.16E+07	9.46E−03
Fe I	$3d^64s^2 - 3d^64s(^6\mathrm{D})5p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*1943.3694*	*402.961*	*51859.983*	25	15		
			1940.6605	415.933	51944.781	7	5	1.29E+07	5.19E−03
			1934.5351	0	51692.007	9	7	2.55E+07	1.11E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})4p$	$^6\mathrm{D}-^6\mathrm{D}^o$	*2611.4059*	*416.299*	*38709.848*	30	30	2.87E+08	2.94E−01
			2632.1081	667.683	38660.043	6	8	9.01E+07	1.25E−01
			2631.8321	862.613	38858.958	4	6	1.12E+08	1.75E−01
			2629.0777	977.053	39013.206	2	4	1.10E+08	2.28E−01
			2626.4511	384.790	38458.981	8	10	5.22E+07	6.75E−02
			2622.4518	977.053	39109.307	2	2	6.32E+07	6.52E−02
			2621.1912	862.613	39013.206	4	4	3.12E+06	3.22E−03
			2618.3991	667.683	38858.958	6	6	4.88E+07	5.02E−02
			2614.6051	862.613	39109.307	4	2	2.23E+08	1.14E−01
			2612.6542	384.790	38660.043	8	8	1.28E+08	1.31E−01
			2607.8664	667.683	39013.206	6	4	1.73E+08	1.18E−01
			2600.1729	0	38458.981	10	10	2.37E+08	2.40E−01
			2599.1465	384.790	38858.958	8	6	1.25E+08	9.48E−02
			2586.6500	0	38660.043	10	8	6.83E+07	5.48E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})4p$	$^6\mathrm{D}-^6\mathrm{F}^o$	*2394.9771*	*416.299*	*42170.352*	30	42	3.30E+08	3.98E−01
			2414.0450	977.053	42401.302	2	4	1.00E+08	1.75E−01
			2411.8023	977.053	42439.822	2	2	2.52E+08	2.20E−01
			2411.2533	862.613	42334.822	4	6	1.55E+08	2.03E−01
			2407.3942	862.613	42401.302	4	4	1.85E+08	1.61E−01
			2405.6186	667.683	42237.033	6	8	2.10E+08	2.43E−01
			2405.1638	862.613	42439.822	4	2	7.24E+07	3.14E−02
			2399.9728	667.683	42334.822	6	6	1.52E+08	1.31E−01
			2396.3559	384.790	42114.818	8	10	2.68E+08	2.89E−01
			2396.1497	667.683	42401.302	6	4	3.96E+07	2.27E−02
			2389.3582	384.790	42237.033	8	8	1.13E+08	9.68E−02
			2383.7884	384.790	42334.822	8	6	1.91E+07	1.22E−02
			2382.7652	0	41968.046	10	12	3.35E+08	3.43E−01
			2374.4612	0	42114.818	10	10	6.24E+07	5.27E−02
			2367.5905	0	42237.033	10	8	6.32E+06	4.25E−03
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})4p$	$^6\mathrm{D}-^6\mathrm{P}^o$	*2344.7034*	*416.299*	*43065.617*	30	18	2.56E+08	1.26E−01
			2381.4887	667.683	42658.224	6	8	8.72E+06	9.88E−03
			2365.5518	384.790	42658.224	8	8	5.35E+07	4.49E−02
			2359.8278	862.613	43238.586	4	6	3.01E+07	3.77E−02
			2349.0223	667.683	43238.586	6	6	9.32E+07	7.71E−02
			2345.0011	977.053	43620.957	2	4	7.66E+07	1.26E−01
			2344.2139	0	42658.224	10	8	1.92E+08	1.26E−01
			2338.7248	862.613	43620.957	4	4	1.08E+08	8.87E−02
			2333.5156	384.790	43238.586	8	6	1.33E+08	8.15E−02
			2328.1112	667.683	43620.957	6	4	7.31E+07	3.96E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^6\mathrm{S})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{P}^o$	*1621.5144*	*416.299*	*62087.043*	30	18	3.74E+08	8.85E−02
			1639.4012	977.053	61974.933	2	4	1.09E+08	8.75E−02
			1636.3313	862.613	61974.933	4	4	1.53E+08	6.14E−02
			1634.3498	862.613	62049.025	4	6	4.38E+07	2.63E−02
			1631.1285	667.683	61974.933	6	4	1.03E+08	2.74E−02
			1629.1596	667.683	62049.025	6	6	1.35E+08	5.38E−02
			1625.9123	667.683	62171.615	6	8	1.33E+07	7.01E−03
			1621.6856	384.790	62049.025	8	6	1.92E+08	5.68E−02
			1618.4680	384.790	62171.615	8	8	8.09E+07	3.18E−02
			1608.4511	0	62171.615	10	8	2.87E+08	8.92E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^6\mathrm{S})4s4p(^1\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{P}^o$	*1267.7361*	*416.299*	*79297.070*	30	18	1.21E+08	1.75E−02
			1277.6431	977.053	79246.170	2	4	3.54E+07	1.73E−02
			1275.7778	862.613	79246.170	4	4	4.98E+07	1.21E−02
			1275.1443	862.613	79285.110	4	6	1.42E+07	5.21E−03
			1272.6129	667.683	79246.170	6	4	3.34E+07	5.41E−03
			1271.9826	667.683	79285.110	6	6	4.38E+07	1.06E−02
			1271.2325	667.683	79331.500	6	8	4.28E+06	1.38E−03
			1267.4220	384.790	79285.110	8	6	6.21E+07	1.12E−02
			1266.6772	384.790	79331.500	8	8	2.60E+07	6.26E−03
			1260.5333	0	79331.500	10	8	9.22E+07	1.76E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{G})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{F}^o$	*1148.3992*	*416.299*	*87494.031*	30	42	5.60E+08	1.55E−01
			1154.3985	977.053	87602.250	2	4	1.71E+08	6.83E−02
			1153.2719	862.613	87572.431	4	6	2.65E+08	7.94E−02
			1152.8755	862.613	87602.250	4	4	3.15E+08	6.28E−02
			1151.1458	667.683	87537.653	6	8	3.58E+08	9.50E−02
			1150.6851	667.683	87572.431	6	6	2.58E+08	5.12E−02
			1150.4691	977.053	87898.120	2	2	4.34E+08	8.62E−02
			1150.2904	667.683	87602.250	6	4	6.68E+07	8.84E−03
			1148.9564	862.613	87898.120	4	2	1.24E+08	1.23E−02
			1148.2773	384.790	87471.765	8	10	4.56E+08	1.13E−01
			1147.4092	384.790	87537.653	8	8	1.91E+08	3.77E−02
			1146.9516	384.790	87572.431	8	6	3.20E+07	4.74E−03
			1144.9390	0	87340.894	10	12	5.65E+08	1.33E−01
			1143.2260	0	87471.765	10	10	1.04E+08	2.05E−02
			1142.3656	0	87537.653	10	8	1.05E+07	1.65E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{P})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{D}^o$	*1138.5984*	*416.299*	*88243.578*	30	30	1.85E+07	3.59E−03
			1153.9500	977.053	87635.920	2	2	3.95E+06	7.89E−04
			1152.4281	862.613	87635.920	4	2	1.39E+07	1.38E−03
			1149.5892	977.053	87964.650	2	4	6.99E+06	2.77E−03
			1148.0788	862.613	87964.650	4	4	1.98E+05	3.91E−05
			1146.8315	862.613	88059.381	4	6	7.22E+06	2.14E−03
			1145.5152	667.683	87964.650	6	4	1.09E+07	1.43E−03
			1144.2735	667.683	88059.381	6	6	3.12E+06	6.11E−04
			1142.3118	667.683	88209.453	6	8	5.87E+06	1.53E−03
			1140.5813	384.790	88059.381	8	6	7.86E+06	1.15E−03
			1138.6323	384.790	88209.453	8	8	8.26E+06	1.60E−03
			1133.6653	0	88209.453	10	8	4.32E+06	6.66E−04
			1133.4048	384.790	88614.517	8	10	3.46E+06	8.33E−04
			1128.4833	0	88614.517	10	10	1.54E+07	2.95E−03
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})5p$	$^6\mathrm{D}-^6\mathrm{D}^o$	*1129.2810*	*416.299*	*88968.219*	30	30	8.45E+07	1.62E−02
			1133.9688	667.683	88853.534	6	8	2.68E+07	6.89E−03
			1133.0566	862.613	89119.458	4	6	3.35E+07	9.66E−03
			1132.0078	384.790	88723.401	8	10	1.55E+07	3.73E−03
			1131.8089	977.053	89331.195	2	4	3.27E+07	1.26E−02
			1130.5596	667.683	89119.458	6	6	1.44E+07	2.76E−03
			1130.3448	862.613	89331.195	4	4	9.27E+05	1.77E−04
			1130.3427	384.790	88853.534	8	8	3.77E+07	7.22E−03
			1130.0161	977.053	89471.366	2	2	1.88E+07	3.60E−03
			1128.5567	862.613	89471.366	4	2	6.60E+07	6.30E−03
			1127.8597	667.683	89331.195	6	4	5.09E+07	6.47E−03
			1127.0984	0	88723.401	10	10	6.92E+07	1.32E−02
			1126.9553	384.790	89119.458	8	6	3.64E+07	5.20E−03
			1125.4476	0	88853.534	10	8	1.97E+07	3.00E−03
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{P})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{P}^o$	*1124.5041*	*416.299*	*89344.391*	30	18	7.14E+08	8.12E−02
			1130.4432	667.683	89128.561	6	8	2.51E+07	6.42E−03
			1128.8995	862.613	89444.458	4	6	8.47E+07	2.43E−02
			1128.0457	977.053	89625.940	2	4	2.12E+08	8.10E−02
			1126.8397	384.790	89128.561	8	8	1.53E+08	2.90E−02
			1126.5914	862.613	89625.940	4	4	2.98E+08	5.67E−02
			1126.4207	667.683	89444.458	6	6	2.60E+08	4.96E−02
			1124.1227	667.683	89625.940	6	4	2.00E+08	2.53E−02
			1122.8427	384.790	89444.458	8	6	3.68E+08	5.22E−02
			1121.9748	0	89128.561	10	8	5.39E+08	8.14E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})5p$	$^6\mathrm{D}-^6\mathrm{F}^o$	*1113.6799*	*416.299*	*90208.711*	30	42	1.22E+07	3.17E−03
			1115.8666	977.053	90593.497	2	4	3.75E+06	1.40E−03
			1115.7577	862.613	90487.810	4	6	5.81E+06	1.63E−03
			1115.6612	667.683	90300.626	6	8	7.81E+06	1.94E−03
			1115.1857	977.053	90648.218	2	2	9.46E+06	1.76E−03
			1115.0440	384.790	90067.347	8	10	9.87E+06	2.30E−03
			1114.4435	862.613	90593.497	4	4	6.92E+06	1.29E−03
			1113.7643	862.613	90648.218	4	2	2.70E+06	2.51E−04
			1113.3362	667.683	90487.810	6	6	5.65E+06	1.05E−03
			1112.1511	384.790	90300.626	8	8	4.16E+06	7.71E−04
			1112.0480	0	89924.175	10	12	1.22E+07	2.72E−03
			1112.0277	667.683	90593.497	6	4	1.47E+06	1.81E−04
			1110.2803	0	90067.347	10	10	2.26E+06	4.18E−04
			1109.8407	384.790	90487.810	8	6	7.01E+05	9.71E−05
			1107.4120	0	90300.626	10	8	2.29E+05	3.37E−05
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})5p$	$^6\mathrm{D}-^6\mathrm{P}^o$	*1098.4486*	*416.299*	*91453.789*	30	18	1.27E+08	1.38E−02
			1104.9693	667.683	91167.938	6	8	4.47E+06	1.09E−03
			1102.3836	862.613	91575.139	4	6	1.51E+07	4.13E−03
			1101.5260	384.790	91167.938	8	8	2.72E+07	4.94E−03
			1100.5166	977.053	91843.471	2	4	3.80E+07	1.38E−02
			1100.0198	667.683	91575.139	6	6	4.65E+07	8.44E−03
			1099.1323	862.613	91843.471	4	4	5.34E+07	9.67E−03
			1096.8768	0	91167.938	10	8	9.59E+07	1.38E−02
			1096.7824	667.683	91843.471	6	4	3.58E+07	4.31E−03
			1096.6073	384.790	91575.139	8	6	6.57E+07	8.89E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{D})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{F}^o$	*1089.3769*	*416.299*	*92211.891*	30	42	6.44E+07	1.60E−02
			1100.4288	977.053	91850.723	2	2	4.88E+07	8.85E−03
			1099.6395	977.053	91915.950	2	4	1.94E+07	7.04E−03
			1099.0447	862.613	91850.723	4	2	1.39E+07	1.26E−03
			1098.2574	862.613	91915.950	4	4	3.58E+07	6.48E−03
			1097.0191	862.613	92018.730	4	6	3.03E+07	8.20E−03
			1095.9112	667.683	91915.950	6	4	7.60E+06	9.12E−04
			1094.6782	667.683	92018.730	6	6	2.94E+07	5.29E−03
			1093.0576	667.683	92154.166	6	8	4.11E+07	9.83E−03
			1091.2987	384.790	92018.730	8	6	3.65E+06	4.89E−04
			1089.6881	384.790	92154.166	8	8	2.19E+07	3.90E−03
			1087.9559	384.790	92300.277	8	10	5.27E+07	1.17E−02
			1085.1381	0	92154.166	10	8	1.21E+06	1.70E−04
			1083.4204	0	92300.277	10	10	1.20E+07	2.12E−03
			1081.8748	0	92432.137	10	12	6.58E+07	1.38E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{D})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{D}^o$	*1068.9859*	*416.299*	*93962.906*	30	30	4.83E+08	8.28E−02
			1076.8518	977.053	93840.340	2	4	1.84E+08	6.41E−02
			1075.6347	862.613	93830.979	4	6	1.90E+08	4.94E−02
			1075.5264	862.613	93840.340	4	4	5.22E+06	9.05E−04
			1074.6411	977.053	94031.379	2	2	1.06E+08	1.84E−02
			1073.3841	667.683	93830.979	6	6	8.18E+07	1.41E−02
			1073.3211	862.613	94031.379	4	2	3.72E+08	3.22E−02
			1073.2763	667.683	93840.340	6	4	2.87E+08	3.30E−02
			1071.5842	667.683	93987.457	6	8	1.54E+08	3.54E−02
			1070.1346	384.790	93830.979	8	6	2.06E+08	2.66E−02
			1068.3456	384.790	93987.457	8	8	2.17E+08	3.71E−02
			1067.5437	384.790	94057.773	8	10	8.98E+07	1.92E−02
			1063.9718	0	93987.457	10	8	1.13E+08	1.54E−02
			1063.1764	0	94057.773	10	10	4.00E+08	6.78E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{D})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{P}^o$	*1061.5964*	*416.299*	*94614.055*	30	18	7.01E+06	7.10E−04
			1072.5914	977.053	94209.200	2	4	2.04E+06	7.03E−04
			1071.2764	862.613	94209.200	4	4	2.86E+06	4.93E−04
			1069.0440	667.683	94209.200	6	4	1.92E+06	2.19E−04
			1065.8427	862.613	94685.090	4	6	8.31E+05	2.12E−04
			1063.6328	667.683	94685.090	6	6	2.55E+06	4.33E−04
			1062.7497	667.683	94763.220	6	8	2.50E+05	5.64E−05
			1060.4420	384.790	94685.090	8	6	3.61E+06	4.56E−04
			1059.5641	384.790	94763.220	8	8	1.52E+06	2.55E−04
			1055.2617	0	94763.220	10	8	5.35E+06	7.15E−04
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{F})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{F}^o$	*942.0256*	*416.299*	*106570.52*	30	42	9.01E+07	1.68E−02
			948.5754	977.053	106398.300	2	4	2.74E+07	7.38E−03
			947.8750	977.053	106476.200	2	2	6.90E+07	9.30E−03
			947.5468	862.613	106398.300	4	4	5.05E+07	6.80E−03
			946.8479	862.613	106476.200	4	2	1.97E+07	1.32E−03
			945.8083	862.613	106592.280	4	6	4.28E+07	8.60E−03
			945.7998	667.683	106398.300	6	4	1.07E+07	9.55E−04
			945.0877	667.683	106477.974	6	8	5.76E+07	1.03E−02
			944.0678	667.683	106592.280	6	6	4.15E+07	5.54E−03
			942.5676	384.790	106477.974	8	8	3.06E+07	4.08E−03
			941.5532	384.790	106592.280	8	6	5.14E+06	5.13E−04
			941.2667	384.790	106624.600	8	10	7.36E+07	1.22E−02
			939.1614	0	106477.974	10	8	1.68E+06	1.78E−04
			937.8699	0	106624.600	10	10	1.68E+07	2.22E−03
			937.6515	0	106649.427	10	12	9.14E+07	1.45E−02
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})6p$	$^6\mathrm{D}-^6\mathrm{D}^o$	*941.1409*	*416.299*	*106670.320*	30	30	1.40E+08	1.87E−02
			943.9229	667.683	106608.536	6	8	4.47E+07	7.97E−03
			943.8278	862.613	106814.148	4	6	5.57E+07	1.12E−02
			943.6062	384.790	106361.208	8	10	2.58E+07	4.30E−03
			942.7991	977.053	107044.189	2	4	5.45E+07	1.45E−02
			942.0945	667.683	106814.148	6	6	2.40E+07	3.19E−03
			941.7830	862.613	107044.189	4	4	1.54E+06	2.05E−04
			941.4091	384.790	106608.536	8	8	6.28E+07	8.35E−03
			940.6746	977.053	107283.740	2	2	3.14E+07	4.16E−03
			940.1924	0	106361.208	10	10	1.15E+08	1.52E−02
			940.0572	667.683	107044.189	6	4	8.46E+07	7.47E−03
			939.6630	862.613	107283.740	4	2	1.10E+08	7.29E−03
			939.5904	384.790	106814.148	8	6	6.05E+07	6.00E−03
			938.0112	0	106608.536	10	8	3.28E+07	3.46E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})6p$	$^6\mathrm{D}-^6\mathrm{F}^o$	*935.7487*	*416.299*	*107282.594*	30	42	1.64E+05	3.02E−05
			937.8395	977.053	107605.101	2	4	5.06E+04	1.33E−05
			937.1225	862.613	107572.252	4	6	7.85E+04	1.55E−05
			936.8341	862.613	107605.101	4	4	9.33E+04	1.23E−05
			936.8022	977.053	107723.176	2	2	1.28E+05	1.68E−05
			936.3991	667.683	107459.750	6	8	1.06E+05	1.85E−05
			936.0401	384.790	107217.824	8	10	1.34E+05	2.19E−05
			935.7989	862.613	107723.176	4	2	3.64E+04	2.39E−06
			935.5176	0	106892.694	10	12	1.64E+05	2.59E−05
			935.4137	667.683	107572.252	6	6	7.62E+04	9.99E−06
			935.1264	667.683	107605.101	6	4	1.98E+04	1.73E−06
			933.9252	384.790	107459.750	8	8	5.62E+04	7.35E−06
			932.9449	384.790	107572.252	8	6	9.45E+03	9.25E−07
			932.6807	0	107217.824	10	10	3.05E+04	3.98E−06
			930.5810	0	107459.750	10	8	3.09E+03	3.21E−07
Fe II	$3d^6(^5\mathrm{D})4s - 3d^6(^5\mathrm{D})6p$	$^6\mathrm{D}-^6\mathrm{P}^o$	*934.3165*	*416.299*	*107446.406*	30	18	6.22E+05	4.88E−05
			938.7080	667.683	107197.080	6	8	2.19E+04	3.86E−06
			937.5362	862.613	107525.159	4	6	7.38E+04	1.46E−05
			936.2219	384.790	107197.080	8	8	1.33E+05	1.75E−05
			935.8926	977.053	107826.916	2	4	1.86E+05	4.87E−05
			935.8260	667.683	107525.159	6	6	2.27E+05	2.98E−05
			934.8913	862.613	107826.916	4	4	2.61E+05	3.42E−05
			933.3550	384.790	107525.159	8	6	3.20E+05	3.14E−05
			933.1907	667.683	107826.916	6	4	1.75E+05	1.52E−05
			932.8612	0	107197.080	10	8	4.68E+05	4.89E−05
Fe II	$3d^6(^5\mathrm{D})4s - 3d^5(^4\mathrm{F})4s4p(^3\mathrm{P}^o)$	$^6\mathrm{D}-^6\mathrm{D}^o$	*928.5436*	*416.299*	*108111.836*	30	30	2.85E+08	3.69E−02
			932.7069	977.053	108191.871	2	4	1.10E+08	2.87E−02
			932.2453	862.613	108130.516	4	6	1.13E+08	2.21E−02
			931.7124	862.613	108191.871	4	4	3.11E+06	4.04E−04
			930.5543	667.683	108130.516	6	6	4.86E+07	6.31E−03
			930.0233	667.683	108191.871	6	4	1.70E+08	1.47E−02
			929.6128	667.683	108239.351	6	8	9.14E+07	1.58E−02
			929.5250	384.790	107966.620	8	10	5.26E+07	8.52E−03
			928.1111	384.790	108130.516	8	6	1.22E+08	1.19E−02
			927.1745	384.790	108239.351	8	8	1.28E+08	1.65E−02
			926.2122	0	107966.620	10	10	2.33E+08	3.01E−02
			923.8784	0	108239.351	10	8	6.62E+07	6.83E−03
				977.053		2	2	6.30E+07	8.20E−03
				862.613		4	2	2.21E+08	1.44E−02
Fe III	$3d^6(4) - 3d^5(^6\mathrm{S}5)4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*1125.7860*	*422.66*	*89249.49*	25	15	6.97E+08	7.95E−02
			1131.9080	738.55	89084.95	5	7	1.96E+07	5.27E−03
			1131.1888	932.06	89334.63	3	5	6.19E+07	1.98E−02
			1130.3969	1027.00	89491.50	1	3	1.38E+08	7.92E−02
			1129.1851	932.06	89491.50	3	3	3.11E+08	5.94E−02
			1128.7181	738.55	89334.63	5	5	2.42E+08	4.62E−02
			1128.0424	435.80	89084.95	7	7	1.38E+08	2.64E−02
			1126.7231	738.55	89491.50	5	3	2.43E+08	2.78E−02
			1124.8742	435.80	89334.63	7	5	3.92E+08	5.31E−02
			1122.5241	0	89084.95	9	7	5.42E+08	7.97E−02
Fe III	$3d^6(4) - 3d^5(^4\mathrm{G}5)4p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*861.3208*	*422.66*	*116523.43*	25	35	8.41E+08	1.31E−01
			864.0299	738.55	116475.29	5	7	5.74E+08	8.99E−02
			862.7341	1027.00	116937.57	1	3	3.91E+08	1.31E−01
			862.3208	932.06	116898.18	3	5	4.71E+08	8.75E−02
			862.0280	932.06	116937.57	3	3	3.93E+08	4.38E−02
			861.8339	435.80	116467.44	7	9	7.05E+08	1.01E−01
			861.7756	435.80	116475.29	7	7	2.53E+08	2.82E−02
			860.8843	738.55	116898.18	5	5	3.38E+08	3.76E−02
			860.5925	738.55	116937.57	5	3	5.64E+07	3.76E−03
			859.7227	0	116316.58	9	11	8.49E+08	1.15E−01
			858.6464	435.80	116898.18	7	5	3.41E+07	2.69E−03
			858.6091	0	116467.44	9	9	1.42E+08	1.57E−02
			858.5512	0	116475.29	9	7	1.22E+07	1.05E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe III	$3d^6(4)-3d^5(^4\mathrm{P3})4p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*857.8652*	*422.66*	*116991.09*	25	25	6.58E+06	7.26E−04
			866.9046	1027.00	116379.94	1	3	2.12E+06	7.18E−04
			866.3054	932.06	116364.79	3	1	6.37E+06	2.39E−04
			866.1917	932.06	116379.94	3	3	5.33E+05	5.99E−05
			865.8953	932.06	116419.46	3	5	2.24E+06	4.19E−04
			864.7423	738.55	116379.94	5	3	3.75E+06	2.52E−04
			864.4469	738.55	116419.46	5	5	1.61E+06	1.80E−04
			862.1904	435.80	116419.46	7	5	2.60E+06	2.07E−04
			859.6232	738.55	117068.59	5	7	1.86E+06	2.89E−04
			857.3918	435.80	117068.59	7	7	3.29E+06	3.63E−04
			854.2001	0	117068.59	9	7	1.43E+06	1.22E−04
			854.0739	435.80	117521.68	7	9	1.11E+06	1.56E−04
			850.9068	0	117521.68	9	9	5.61E+06	6.09E−04
Fe III	$3d^6(4)-3d^5(^4\mathrm{P3})4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*846.6942*	*422.66*	*118529.06*	25	15	1.06E+09	6.82E−02
			851.0063	738.55	118246.49	5	7	2.97E+07	4.52E−03
			848.9730	932.06	118721.44	3	5	9.44E+07	1.70E−02
			848.8194	435.80	118246.49	7	7	2.10E+08	2.27E−02
			848.6028	1027.00	118867.76	1	3	2.10E+08	6.80E−02
			847.9197	932.06	118867.76	3	3	4.74E+08	5.11E−02
			847.5805	738.55	118721.44	5	5	3.70E+08	3.98E−02
			846.5307	738.55	118867.76	5	3	3.69E+08	2.38E−02
			845.6911	0	118246.49	9	7	8.19E+08	6.83E−02
			845.4112	435.80	118721.44	7	5	5.94E+08	4.55E−02
Fe III	$3d^6(4)-3d^5(^4\mathrm{D5})4p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*828.2412*	*422.66*	*121160.44*	25	35	1.27E+08	1.83E−02
			835.6294	1027.00	120697.27	1	3	5.76E+07	1.81E−02
			834.9670	932.06	120697.27	3	3	5.78E+07	6.04E−03
			834.0703	932.06	120826.03	3	5	6.96E+07	1.21E−02
			833.6201	738.55	120697.27	5	3	8.29E+06	5.18E−04
			832.7263	738.55	120826.03	5	5	4.99E+07	5.19E−03
			831.4615	738.55	121008.70	5	7	8.61E+07	1.25E−02
			830.6322	435.80	120826.03	7	5	5.02E+06	3.71E−04
			829.3738	435.80	121008.70	7	7	3.79E+07	3.91E−03
			827.7742	435.80	121241.69	7	9	1.06E+08	1.40E−02
			826.3869	0	121008.70	9	7	1.82E+06	1.45E−04
			824.7988	0	121241.69	9	9	2.15E+07	2.19E−03
			823.2563	0	121468.85	9	11	1.30E+08	1.61E−02
Fe III	$3d^6(4)-3d^5(^4\mathrm{D5})4p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*816.7636*	*422.66*	*122857.11*	25	25	8.29E+08	8.29E−02
			821.7184	932.06	122628.25	3	5	2.85E+08	4.81E−02
			820.9100	1027.00	122843.04	1	3	2.72E+08	8.25E−02
			820.4139	738.55	122628.25	5	5	2.04E+08	2.06E−02
			820.2707	932.06	122843.04	3	3	6.82E+07	6.88E−03
			819.0619	738.55	122829.45	5	7	2.34E+08	3.30E−02
			818.9707	738.55	122843.04	5	3	4.81E+08	2.90E−02
			818.3812	435.80	122628.25	7	5	3.29E+08	2.36E−02
			817.0359	435.80	122829.45	7	7	4.14E+08	4.14E−02
			816.2722	435.80	122943.95	7	9	1.39E+08	1.78E−02
			816.1694	932.06	123455.64	3	1	8.32E+08	2.77E−02
			814.1370	0	122829.45	9	7	1.79E+08	1.38E−02
			813.3788	0	122943.95	9	9	7.00E+08	6.94E−02
Fe III	$3d^6(4)-3d^5(^4\mathrm{D5})4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*811.2247*	*422.66*	*123693.07*	25	15	3.83E+07	2.27E−03
			816.1548	1027.00	123552.78	1	3	7.51E+06	2.25E−03
			815.5229	932.06	123552.78	3	3	1.69E+07	1.69E−03
			814.5651	932.06	123696.95	3	5	3.40E+06	5.64E−04
			814.2379	738.55	123552.78	5	3	1.32E+07	7.90E−04
			813.2832	738.55	123696.95	5	5	1.33E+07	1.32E−03
			812.9297	738.55	123750.42	5	7	1.09E+06	1.51E−04
			811.2856	435.80	123696.95	7	5	2.14E+07	1.51E−03
			810.9339	435.80	123750.42	7	7	7.66E+06	7.55E−04
			808.0781	0	123750.42	9	7	2.99E+07	2.28E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe III	$3d^6(4)-3d^5(^4\mathrm{F3})4p$	$^5\mathrm{D}-^5\mathrm{F}^\circ$	*736.9664*	*422.66*	*136114.06*	25	35	1.32E+08	1.50E−02
			739.7240	932.06	136117.61	3	5	7.31E+07	1.00E−02
			739.2617	738.55	136008.65	5	7	8.98E+07	1.03E−02
			738.6667	738.55	136117.61	5	5	5.24E+07	4.29E−03
			738.3475	1027.00	136464.58	1	3	6.12E+07	1.50E−02
			737.8303	932.06	136464.58	3	3	6.14E+07	5.01E−03
			737.7085	435.80	135990.70	7	9	1.11E+08	1.16E−02
			737.6108	435.80	136008.65	7	7	3.95E+07	3.22E−03
			737.0185	435.80	136117.61	7	5	5.28E+06	3.07E−04
			736.7783	738.55	136464.58	5	3	8.83E+06	4.31E−04
			735.3444	0	135990.70	9	9	2.22E+07	1.80E−03
			735.2474	0	136008.65	9	7	1.90E+06	1.20E−04
			734.2961	0	136184.85	9	11	1.34E+08	1.32E−02
Fe III	$3d^6(4)-3d^5(^4\mathrm{F3})4p$	$^5\mathrm{D}-^5\mathrm{D}^\circ$	*730.0857*	*422.66*	*137392.88*	25	25	5.81E+08	4.64E−02
			732.4192	1027.00	137560.84	1	3	1.91E+08	4.62E−02
			731.9984	932.06	137544.38	3	5	2.02E+08	2.70E−02
			731.9102	932.06	137560.84	3	3	4.79E+07	3.85E−03
			731.8454	932.06	137572.94	3	1	5.75E+08	1.54E−02
			731.6140	738.55	137422.64	5	7	1.65E+08	1.85E−02
			731.1343	435.80	137209.57	7	9	9.62E+07	9.91E−03
			730.9630	738.55	137544.38	5	5	1.45E+08	1.16E−02
			730.8751	738.55	137560.84	5	3	3.37E+08	1.62E−02
			729.9971	435.80	137422.64	7	7	2.90E+08	2.32E−02
			729.3490	435.80	137544.38	7	5	2.33E+08	1.33E−02
			728.8121	0	137209.57	9	9	4.86E+08	3.87E−02
			727.6821	0	137422.64	9	7	1.26E+08	7.75E−03
Fe III	$3d^6(4)-3d^5(^6\mathrm{S5})5p$	$^5\mathrm{D}-^5\mathrm{P}^\circ$	*595.3551*	*422.66*	*168389.65*	25	15	3.42E+08	1.09E−02
			597.1919	1027.00	168477.36	1	3	6.73E+07	1.08E−02
			597.0544	932.06	168420.99	3	5	3.03E+07	2.70E−03
			596.8535	932.06	168477.36	3	3	1.52E+08	8.11E−03
			596.6903	738.55	168329.67	5	7	9.63E+06	7.20E−04
			596.3654	738.55	168420.99	5	5	1.18E+08	6.31E−03
			596.1650	738.55	168477.36	5	3	1.19E+08	3.79E−03
			595.6144	435.80	168329.67	7	7	6.79E+07	3.61E−03
			595.2906	435.80	168420.99	7	5	1.90E+08	7.22E−03
			594.0723	0	168329.67	9	7	2.65E+08	1.09E−02
Fe III	$3d^6(4)-3d^5(^6\mathrm{S5})4f$	$^5\mathrm{D}-^5\mathrm{F}^\circ$	*542.4271*	*422.66*	*184779.2*	25	35	1.05E+09	6.49E−02
			544.2168	1027.00	184777.3	1	3	4.86E+08	6.47E−02
			543.9358	932.06	184777.3	3	3	4.87E+08	2.16E−02
			543.9349	932.06	184777.6	3	5	5.83E+08	4.31E−02
			543.3638	738.55	184777.3	5	3	6.97E+07	1.85E−03
			543.3629	738.55	184777.6	5	5	4.18E+08	1.85E−02
			543.3603	738.55	184778.5	5	7	7.16E+08	4.44E−02
			542.4706	435.80	184777.6	7	5	4.19E+07	1.32E−03
			542.4679	435.80	184778.5	7	7	3.15E+08	1.39E−02
			542.4650	435.80	184779.5	7	9	8.74E+08	4.96E−02
			541.1885	0	184778.5	9	7	1.51E+07	5.17E−04
			541.1856	0	184779.5	9	9	1.76E+08	7.75E−03
			541.1818	0	184780.8	9	11	1.06E+09	5.68E−02
Fe III	$3d^6(4)-3d^5(^4\mathrm{G5})5p$	$^5\mathrm{D}-^5\mathrm{F}^\circ$	*503.0195*	*422.66*	*199222.10*	25	35	2.54E+08	1.35E−02
			504.2840	1027.00	199327.95	1	3	1.18E+08	1.35E−02
			504.1133	932.06	199300.15	3	5	1.41E+08	8.96E−03
			504.0427	932.06	199327.95	3	3	1.17E+08	4.47E−03
			503.7177	738.55	199262.44	5	7	1.73E+08	9.22E−03
			503.6220	738.55	199300.15	5	5	1.01E+08	3.85E−03
			503.5515	738.55	199327.95	5	3	1.69E+07	3.85E−04
			503.0765	435.80	199212.72	7	9	2.11E+08	1.03E−02
			502.9507	435.80	199262.44	7	7	7.59E+07	2.88E−03
			502.8553	435.80	199300.15	7	5	1.01E+07	2.74E−04
			502.1599	0	199139.76	9	11	2.53E+08	1.17E−02
			501.9760	0	199212.72	9	9	4.26E+07	1.61E−03
			501.8507	0	199262.44	9	7	3.64E+06	1.07E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe III	$3d^6(4)-3d^5(^4\mathrm{P3})5p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*498.1083*	*422.66*	*201182.21*	25	25	2.52E+07	9.39E−04
			499.6228	1027.00	201178.01	1	3	8.34E+06	9.36E−04
			499.4203	932.06	201164.21	3	5	8.76E+06	5.46E−04
			499.4056	932.06	201170.10	3	1	2.50E+07	3.12E−04
			499.3859	932.06	201178.01	3	3	2.09E+06	7.80E−05
			498.9381	738.55	201164.21	5	5	6.27E+06	2.34E−04
			498.9328	738.55	201166.35	5	7	7.18E+06	3.75E−04
			498.9038	738.55	201178.01	5	3	1.46E+07	3.28E−04
			498.1856	435.80	201164.21	7	5	1.01E+07	2.68E−04
			498.1803	435.80	201166.35	7	7	1.26E+07	4.69E−04
			498.0787	435.80	201207.29	7	9	4.20E+06	2.01E−04
			497.1010	0	201166.35	9	7	5.45E+06	1.57E−04
			496.9999	0	201207.29	9	9	2.12E+07	7.84E−04
Fe III	$3d^6(4)-3d^5(^4\mathrm{P3})5p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*495.4616*	*422.66*	*202254.67*	25	15	2.75E+08	6.08E−03
			496.7528	1027.00	202334.39	1	3	5.46E+07	6.06E−03
			496.6462	932.06	202282.65	3	5	2.47E+07	1.52E−03
			496.5186	932.06	202334.39	3	3	1.23E+08	4.55E−03
			496.3716	738.55	202200.51	5	7	7.83E+06	4.05E−04
			496.1693	738.55	202282.65	5	5	9.59E+07	3.54E−03
			496.0420	738.55	202334.39	5	3	9.62E+07	2.13E−03
			495.6268	435.80	202200.51	7	7	5.51E+07	2.03E−03
			495.4251	435.80	202282.65	7	5	1.54E+08	4.05E−03
			494.5586	0	202200.51	9	7	2.14E+08	6.09E−03
Fe III	$3d^6(4)-3d^5(^4\mathrm{D5})5p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*488.6466*	*422.66*	*205069.55*	25	35	6.64E+05	3.33E−05
			490.4843	1027.00	204907.13	1	3	3.06E+05	3.31E−05
			490.2560	932.06	204907.13	3	3	3.05E+05	1.10E−05
			490.1692	932.06	204943.26	3	5	3.66E+05	2.20E−05
			489.7913	738.55	204907.13	5	3	4.39E+04	9.48E−07
			489.7047	738.55	204943.26	5	5	2.64E+05	9.48E−06
			489.5627	738.55	205002.47	5	7	4.51E+05	2.27E−05
			488.9797	435.80	204943.26	7	5	2.65E+04	6.78E−07
			488.8382	435.80	205002.47	7	7	1.98E+05	7.11E−06
			488.6231	435.80	205092.53	7	9	5.54E+05	2.55E−05
			487.7990	0	205002.47	9	7	9.51E+03	2.64E−07
			487.5848	0	205092.53	9	9	1.11E+05	3.97E−06
			487.3410	0	205195.15	9	11	6.69E+05	2.91E−05
Fe III	$3d^6(4)-3d^5(^4\mathrm{D5})5p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*487.1315*	*422.66*	*205706.02*	25	25	1.92E+08	6.83E−03
			488.5983	1027.00	205694.09	1	3	6.34E+07	6.81E−03
			488.3718	932.06	205694.09	3	3	1.59E+07	5.68E−04
			488.2683	932.06	205737.51	3	5	6.68E+07	3.98E−03
			487.9107	738.55	205694.09	5	3	1.12E+08	2.39E−03
			487.8196	738.55	205732.37	5	7	5.47E+07	2.73E−03
			487.8074	738.55	205737.51	5	5	4.79E+07	1.71E−03
			487.2435	435.80	205672.01	7	9	3.21E+07	1.47E−03
			487.1002	435.80	205732.37	7	7	9.61E+07	3.42E−03
			487.0880	435.80	205737.51	7	5	7.67E+07	1.95E−03
			486.2110	0	205672.01	9	9	1.61E+08	5.70E−03
			486.0684	0	205732.37	9	7	4.14E+07	1.14E−03
				932.06		3	1	1.82E+08	2.16E−03
Fe III	$3d^6(4)-3d^5(^6\mathrm{S5})5f$	$^5\mathrm{D}-^5\mathrm{F}^o$	*483.4579*	*422.66*	*207265.9*	25	35	7.52E+08	3.69E−02
			484.9061	1027.00	207252.5	1	3	3.48E+08	3.68E−02
			484.6830	932.06	207252.5	3	3	3.49E+08	1.23E−02
			484.6705	932.06	207257.8	3	5	4.19E+08	2.46E−02
			484.2288	738.55	207252.5	5	3	4.98E+07	1.05E−03
			484.2164	738.55	207257.8	5	5	2.99E+08	1.05E−02
			484.2042	738.55	207263	5	7	5.14E+08	2.53E−02
			483.5076	435.80	207257.8	7	5	3.01E+07	7.53E−04
			483.4954	435.80	207263	7	7	2.26E+08	7.92E−03
			483.4832	435.80	207268.2	7	9	6.26E+08	2.82E−02
			482.4788	0	207263	9	7	1.08E+07	2.93E−04
			482.4667	0	207268.2	9	9	1.26E+08	4.40E−03
			482.4550	0	207273.23	9	11	7.57E+08	3.23E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe III	$3d^6(4)-3d^5(^4\mathrm{F3})5p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*456.4129*	*422.66*	*219522.54*	25	35	1.07E+08	4.69E−03
			457.2138	1027.00	219743.04	1	3	4.98E+07	4.68E−03
			457.1983	932.06	219655.55	3	5	5.97E+07	3.12E−03
			457.0155	932.06	219743.04	3	3	4.98E+07	1.56E−03
			456.9809	738.55	219566.08	5	7	7.32E+07	3.21E−03
			456.7941	738.55	219655.55	5	5	4.28E+07	1.34E−03
			456.6116	738.55	219743.04	5	3	7.14E+06	1.34E−04
			456.5456	435.80	219471.97	7	9	8.94E+07	3.59E−03
			456.3495	435.80	219566.08	7	7	3.20E+07	1.00E−03
			456.1633	435.80	219655.55	7	5	4.30E+06	9.58E−05
			455.7561	0	219415.61	9	11	1.08E+08	4.11E−03
			455.6391	0	219471.97	9	9	1.80E+07	5.60E−04
			455.4438	0	219566.08	9	7	1.54E+06	3.73E−05
Fe IV	$3d^5(5)-3d^4(^5\mathrm{D4})4p$	$^6\mathrm{S}-^6\mathrm{P}^o$	*526.0996*	0	*190078.06*	6	18	3.31E+09	4.12E−01
			526.6342	0	189885.11	6	4	3.30E+09	9.14E−02
			526.2929	0	190008.28	6	6	3.32E+09	1.38E−01
			525.6881	0	190226.87	6	8	3.31E+09	1.83E−01
Fe V	$3d^4(4)-3d^3(^4\mathrm{F3})4p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*387.5296*	*787.2*	*258832.0*	25	25	7.68E+09	1.73E−01
			388.6130	803.1	258128.5	7	5	3.04E+09	4.91E−02
			388.5046	1282.8	258680.0	9	7	1.63E+09	2.87E−02
			388.0313	417.3	258128.5	5	5	1.90E+09	4.30E−02
			387.7819	803.1	258680.0	7	7	3.82E+09	8.62E−02
			387.6173	142.1	258128.5	3	5	2.69E+09	1.01E−01
			387.5038	1282.8	259344.8	9	9	6.35E+09	1.43E−01
			387.2026	417.3	258680.0	5	7	2.19E+09	6.90E−02
			386.8858	417.3	258891.5	5	3	4.49E+09	6.05E−02
			386.8810	142.1	258619.5	3	1	7.69E+09	5.75E−02
			386.7848	803.1	259344.8	7	9	1.28E+09	3.70E−02
			386.4743	142.1	258891.5	3	3	6.43E+08	1.44E−02
			386.2622	0	258891.5	1	3	2.58E+09	1.73E−01
Fe V	$3d^4(4)-3d^3(^4\mathrm{F3})4p$	$^5\mathrm{D}-^5\mathrm{F}^o$	*385.1879*	*787.2*	*260400.7*	25	35	2.61E+09	8.13E−02
			386.7380	803.1	259376.1	7	5	1.03E+08	1.65E−03
			386.5901	1282.8	259954.7	9	7	3.68E+07	6.42E−04
			386.1618	417.3	259376.1	5	5	1.04E+09	2.32E−02
			385.8745	803.1	259954.7	7	7	7.79E+08	1.74E−02
			385.7519	142.1	259376.1	3	5	1.45E+09	5.41E−02
			385.7456	1282.8	260521.0	9	9	4.33E+08	9.66E−03
			385.3009	417.3	259954.7	5	7	1.79E+09	5.57E−02
			385.0331	803.1	260521.0	7	9	2.18E+09	6.22E−02
			384.9573	1282.8	261051.9	9	11	2.61E+09	7.10E−02
				0		1	3	1.20E+09	8.04E−02
				142.1		3	3	1.20E+09	2.68E−02
				417.3		5	3	1.72E+08	2.30E−03
Fe V	$3d^4(4)-3d^3(^4\mathrm{P3})4p$	$^5\mathrm{D}-^5\mathrm{P}^o$	*365.4691*	*787.2*	*274408.1*	25	15	6.40E+09	7.69E−02
			365.9976	417.3	273643.1	5	3	2.23E+09	2.69E−02
			365.8541	803.1	274136.1	7	5	3.57E+09	5.12E−02
			365.6294	142.1	273643.1	3	3	2.87E+09	5.76E−02
			365.4395	0	273643.1	1	3	1.28E+09	7.69E−02
			365.4336	1282.8	274930.3	9	7	4.94E+09	7.69E−02
			365.3384	417.3	274136.1	5	5	2.24E+09	4.48E−02
			364.9715	142.1	274136.1	3	5	5.77E+08	1.92E−02
			364.7942	803.1	274930.3	7	7	1.28E+09	2.56E−02
			364.2815	417.3	274930.3	5	7	1.85E+08	5.14E−03
Fe V	$3d^4(4)-3d^3(^4\mathrm{P3})4p$	$^5\mathrm{D}-^5\mathrm{D}^o$	*361.9794*	*787.2*	*277046.0*	25	25	2.24E+08	4.40E−03
			364.1512	142.1	274753.3	3	1	2.20E+08	1.46E−03
			363.9947	417.3	275146.6	5	3	1.29E+08	1.54E−03
			363.6304	142.1	275146.6	3	3	1.84E+07	3.65E−04
			363.4426	0	275146.6	1	3	7.39E+07	4.39E−03
			362.6004	1282.8	277068.5	9	7	4.78E+07	7.33E−04
			362.3765	803.1	276759.2	7	5	8.96E+07	1.26E−03
			361.9708	803.1	277068.5	7	7	1.12E+08	2.20E−03
			361.8706	417.3	276759.2	5	5	5.60E+07	1.10E−03
			361.5106	142.1	276759.2	3	5	7.87E+07	2.57E−03
			361.4660	417.3	277068.5	5	7	6.42E+07	1.76E−03
			361.2808	1282.8	278075.8	9	9	1.88E+08	3.67E−03
			360.6558	803.1	278075.8	7	9	3.78E+07	9.47E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VI	$3d^3(3)-3d^2(^3\mathrm{F})4p$	$^4\mathrm{F}-^4\mathrm{G}^o$	*294.4645*	*1163.6*	*340763.1*	28	36	1.20E+09	2.01E−02
			296.6760	1188.3	338256.4	8	6	5.99E+06	5.93E−05
			296.3170	2000.6	339477.0	10	8	3.51E+06	3.70E−05
			296.0813	511.3	338256.4	6	6	1.63E+08	2.14E−03
			295.6337	0	338256.4	4	6	1.02E+09	2.00E−02
			295.6055	1188.3	339477.0	8	8	1.61E+08	2.11E−03
			295.0423	2000.6	340935.0	10	10	9.88E+07	1.29E−03
			295.0151	511.3	339477.0	6	8	1.03E+09	1.79E−02
			294.3369	1188.3	340935.0	8	10	1.10E+09	1.79E−02
			293.4875	2000.6	342730.6	10	12	1.21E+09	1.88E−02
Fe VI	$3d^3(3)-3d^2(^3\mathrm{F})4p$	$^4\mathrm{F}-^4\mathrm{F}^o$	*294.0278*	*1163.6*	*341267.5*	28	28	1.09E+10	1.41E−01
			294.9605	511.3	339539.8	6	4	2.15E+09	1.87E−02
			294.8498	1188.3	340344.0	8	6	1.92E+09	1.88E−02
			294.6682	2000.6	341365.3	10	8	1.12E+09	1.17E−02
			294.5163	0	339539.8	4	4	8.61E+09	1.12E−01
			294.2624	511.3	340344.0	6	6	7.45E+09	9.67E−02
			293.9646	1188.3	341365.3	8	8	8.34E+09	1.08E−01
			293.8204	0	340344.0	4	6	1.45E+09	2.82E−02
			293.7429	2000.6	342434.4	10	10	9.97E+09	1.29E−01
			293.3807	511.3	341365.3	6	8	1.46E+09	2.52E−02
			293.0436	1188.3	342434.4	8	10	9.13E+08	1.47E−02
Fe VI	$3d^3(3)-3d^2(^3\mathrm{F})4p$	$^4\mathrm{F}-^4\mathrm{D}^o$	*291.2976*	*1163.6*	*344455.1*	28	20	1.01E+10	9.22E−02
			291.8007	511.3	343210.9	6	4	8.07E+09	6.87E−02
			291.4730	1188.3	344273.3	8	6	8.27E+09	7.90E−02
			291.3660	0	343210.9	4	4	2.03E+09	2.58E−02
			291.1869	2000.6	345422.6	10	8	9.08E+09	9.23E−02
			291.0197	0	343619.3	4	2	1.02E+10	6.46E−02
			290.8989	511.3	344273.3	6	6	1.77E+09	2.25E−02
			290.4998	1188.3	345422.6	8	8	1.04E+09	1.32E−02
			290.4669	0	344273.3	4	6	9.75E+07	1.85E−03
			289.9296	511.3	345422.6	6	8	5.25E+07	8.82E−04
Fe VI	$3d^3(3)-3d^2(^3\mathrm{P})4p$	$^4\mathrm{F}-^4\mathrm{D}^o$	*277.8917*	*1163.6*	*361016.0*	28	20	3.68E+09	3.04E−02
			278.3422	511.3	359781.3	6	4	2.93E+09	2.27E−02
			278.2447	0	359395.9	4	2	3.67E+09	2.13E−02
			278.1496	1188.3	360707.1	8	6	3.00E+09	2.61E−02
			277.9466	0	359781.3	4	4	7.36E+08	8.52E−03
			277.6268	511.3	360707.1	6	6	6.42E+08	7.42E−03
			277.5701	2000.6	362270.0	10	8	3.30E+09	3.05E−02
			277.2332	0	360707.1	4	6	3.53E+07	6.10E−04
			276.9456	1188.3	362270.0	8	8	3.79E+08	4.36E−03
			276.4274	511.3	362270.0	6	8	1.91E+07	2.91E−04
Fe VI	$3d^3(3)-3p^5 3d^4(^5\mathrm{D}4)$	$^4\mathrm{F}-^4\mathrm{D}^o$	*165.530*	*1163.6*	*605285*	28	20	1.69E+11	4.97E−01
			165.780	0	603210	4	2	1.69E+11	3.48E−01
			165.640	511.3	604230	6	4	1.35E+11	3.71E−01
			165.500	2000.6	606230	10	8	1.51E+11	4.97E−01
			165.500	0	604230	4	4	3.38E+10	1.39E−01
			165.499	1188.3	605420	8	6	1.38E+11	4.26E−01
			165.314	511.3	605420	6	6	2.95E+10	1.21E−01
			165.278	1188.3	606230	8	8	1.74E+10	7.11E−02
			165.175	0	605420	4	6	1.62E+09	9.96E−03
			165.093	511.3	606230	6	8	8.72E+08	4.75E−03
Fe VII	$3p^6 3d^2-3p^6 3d4p$	$^3\mathrm{F}-^3\mathrm{D}^o$	*233.9837*	*1349.7*	*428730.0*	21	15	2.01E+10	1.18E−01
			235.2229	0	425128.6	5	3	1.99E+10	9.88E−02
			234.3385	1051.5	427784.7	7	5	1.79E+10	1.05E−01
			233.7625	0	427784.7	5	5	2.25E+09	1.84E−02
			233.3085	2331.5	430948.6	9	7	1.86E+10	1.18E−01
			232.6138	1051.5	430948.6	7	7	1.63E+09	1.32E−02
			232.0462	0	430948.6	5	7	4.69E+07	5.30E−04
Fe VII	$3p^6 3d^2-3p^6 3d4p$	$^3\mathrm{F}-^3\mathrm{F}^o$	*232.0742*	*1349.7*	*432246.4*	21	21	7.93E+09	6.40E−02
			233.0123	1051.5	430213.4	7	5	8.72E+08	5.07E−03
			232.9493	2331.5	431609.5	9	7	6.31E+08	3.99E−03
			232.4428	0	430213.4	5	5	7.01E+09	5.68E−02
			232.2567	1051.5	431609.5	7	7	6.65E+09	5.38E−02
			231.7284	2331.5	433871.2	9	9	7.47E+09	6.01E−02
			231.6909	0	431609.5	5	7	6.33E+08	7.13E−03
			231.0431	1051.5	433871.2	7	9	5.02E+08	5.17E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VII	$3p^6 3d^2 - 3p^5 3d^3$	^{3}F$-^3$G$^\circ$	*211.137*	*1349.7*	*474975*	21	27	1.28E+09	1.10E−02
			212.663	2331.5	472559	9	11	1.25E+09	1.04E−02
			212.508	2331.5	472903	9	9	7.84E+07	5.31E−04
			211.931	1051.5	472903	7	9	1.19E+09	1.03E−02
			208.723	2331.5	481435	9	7	1.69E+06	8.60E−06
			208.167	1051.5	481435	7	7	1.08E+08	6.99E−04
			207.712	0	481435	5	7	1.24E+09	1.12E−02
Fe VII	$3p^6 3d^2 - 3p^5 3d^3$	^{3}F$-^3$G$^\circ$	*195.921*	*1349.7*	*511759*	21	27	1.02E+08	7.56E−04
			196.946	2331.5	510086	9	7	1.28E+05	5.80E−07
			196.918	2331.5	510158	9	9	6.28E+06	3.65E−05
			196.450	1051.5	510086	7	7	8.12E+06	4.70E−05
			196.423	1051.5	510158	7	9	9.49E+07	7.06E−04
			196.045	0	510086	5	7	9.36E+07	7.55E−04
			195.388	2331.5	514133	9	11	1.03E+08	7.20E−04
Fe VII	$3p^6 3d^2 - 3p^5 3d^3$	^{3}F$-^3$D$^\circ$	*182.200*	*1349.7*	*550196*	21	15	9.76E+08	3.47E−03
			182.741	1051.5	548274	7	5	8.61E+08	3.08E−03
			182.391	0	548274	5	5	1.08E+08	5.39E−04
			182.071	2331.5	551568	9	7	8.98E+08	3.47E−03
			181.648	1051.5	551568	7	7	7.80E+07	3.86E−04
			181.301	0	551568	5	7	2.25E+06	1.55E−05
				0		5	3	8.17E+08	2.44E−03
Fe VII	$3p^6 3d^2 - 3p^5 3d^3$	^{3}F$-^3$F$^\circ$	*176.907*	*1349.7*	*566618*	21	21	1.48E+08	6.93E−04
			177.502	1051.5	564425	7	5	1.62E+07	5.48E−05
			177.329	2331.5	566256	9	7	1.18E+07	4.32E−05
			177.171	0	564425	5	5	1.31E+08	6.15E−04
			176.927	1051.5	566256	7	7	1.24E+08	5.82E−04
			176.745	2331.5	568118	9	9	1.39E+08	6.50E−04
			176.599	0	566256	5	7	1.18E+07	7.71E−05
			176.346	1051.5	568118	7	9	9.33E+06	5.59E−05
Fe VII	$3p^6 3d^2 - 3p^5 3d^3$:	^{3}F$-^3$D$^\circ$	*166.016*	*1349.7*	*603702*	21	15	6.30E+08	1.86E−03
			166.365	2331.5	603419	9	7	5.76E+08	1.86E−03
			166.012	1051.5	603419	7	7	4.99E+07	2.06E−04
			165.919	1051.5	603757	7	5	5.60E+08	1.65E−03
			165.722	0	603419	5	7	1.43E+06	8.27E−06
			165.630	0	603757	5	5	7.05E+07	2.90E−04
			165.489	0	604270	5	3	6.37E+08	1.57E−03
Fe VII	$3p^6 3d^2 - 3p^6 3d4f$	^{3}F$-^3$F$^\circ$	*151.682*	*1349.7*	*660624*	21	21	1.34E+11	4.61E−01
			151.970	2331.5	660358	9	7	1.07E+10	2.88E−02
			151.782	2331.5	661169	9	9	1.25E+11	4.33E−01
			151.753	1051.5	660015	7	5	1.48E+10	3.66E−02
			151.674	1051.5	660358	7	7	1.12E+11	3.88E−01
			151.512	0	660015	5	5	1.19E+11	4.11E−01
			151.488	1051.5	661169	7	9	8.41E+09	3.72E−02
			151.433	0	660358	5	7	1.07E+10	5.14E−02
Fe VII	$3p^6 3d^2 - 3p^6 3d4f$	^{3}F$-^3$G$^\circ$	*150.922*	*1349.7*	*663946*	21	27	1.50E+11	6.58E−01
			151.340	2331.5	663097	9	7	1.90E+08	5.07E−04
			151.145	2331.5	663950	9	9	9.31E+09	3.19E−02
			151.047	1051.5	663097	7	7	1.20E+10	4.12E−02
			151.023	2331.5	664482	9	11	1.50E+11	6.26E−01
			150.853	1051.5	663950	7	9	1.41E+11	6.18E−01
			150.807	0	663097	5	7	1.38E+11	6.59E−01
Fe VII	$3p^6 3d^2 - 3p^6 3d4f$	^{3}F$-^3$D$^\circ$	*150.400*	*1349.7*	*666245*	21	15	5.70E+08	1.38E−03
			150.530	2331.5	666651	9	7	5.22E+08	1.38E−03
			150.405	1051.5	665923	7	5	5.08E+08	1.23E−03
			150.240	1051.5	666651	7	7	4.55E+07	1.54E−04
			150.188	0	665832	5	3	5.77E+08	1.17E−03
			150.168	0	665923	5	5	6.39E+07	2.16E−04
			150.004	0	666651	5	7	1.31E+06	6.17E−06

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$	^{3}F$-^3$D^o	*133.984*	*1349.7*	*747710*	21	15	1.31E+10	2.51E−02
			134.128	0	745556	5	3	1.30E+10	2.11E−02
			134.064	1051.5	746965	7	5	1.16E+10	2.23E−02
			133.898	2331.5	749166	9	7	1.20E+10	2.51E−02
			133.875	0	746965	5	5	1.46E+09	3.91E−03
			133.669	1051.5	749166	7	7	1.05E+09	2.80E−03
			133.482	0	749166	5	7	2.99E+07	1.12E−04
Fe VII	$3p^6 3d^2 - 3p^6 3d5f$*	^{3}F$-^3$G^o	*130.374*	*1349.7*	*768376*	21	27	8.03E+10	2.63E−01
			130.777	2331.5	766991	9	11	7.98E+10	2.50E−01
			130.466	2331.5	768813	9	9	5.02E+09	1.28E−02
			130.266	2331.5	769991	9	7	1.03E+08	2.04E−04
			130.249	1051.5	768813	7	9	7.55E+10	2.47E−01
			130.049	1051.5	769991	7	7	6.51E+09	1.65E−02
			129.872	0	769991	5	7	7.46E+10	2.64E−01
Fe VII	$3p^6 3d^2 - 3p^6 3d5f$*	^{3}F$-^3$F^o	*128.581*	*1349.7*	*779070*	21	21	4.88E+10	1.21E−01
			128.851	2331.5	778420	9	7	3.90E+09	7.55E−03
			128.660	2331.5	779575	9	9	4.55E+10	1.13E−01
			128.639	1051.5	778420	7	7	4.11E+10	1.02E−01
			128.465	0	778420	5	7	3.90E+09	1.35E−02
			128.448	1051.5	779575	7	9	3.06E+09	9.74E−03
				0		5	5	4.44E+10	1.10E−01
				1051.5		7	5	5.55E+09	9.83E−03
Fe VII	$3p^6 3d^2 - 3p^6 3d6p$*	^{3}F$-^3$F^o	*127.954*	*1349.7*	*782878*	21	21	6.31E+08	1.55E−03
			128.146	2331.5	782690	9	9	5.89E+08	1.45E−03
			128.076	2331.5	783119	9	7	5.08E+07	9.71E−05
			127.936	1051.5	782690	7	9	3.93E+07	1.24E−04
			127.866	1051.5	783119	7	7	5.30E+08	1.30E−03
			127.695	0	783119	5	7	5.05E+07	1.73E−04
				0		5	5	5.83E+08	1.43E−03
				1051.5		7	5	7.30E+07	1.28E−04
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$*	^{3}F$-^3$F^o	*127.561*	*1349.7*	*785287*	21	21	1.62E+08	3.96E−04
			127.766	2331.5	785012	9	7	1.30E+07	2.48E−05
			127.636	2331.5	785809	9	9	1.52E+08	3.72E−04
			127.603	1051.5	784733	7	5	1.80E+07	3.14E−05
			127.557	1051.5	785012	7	7	1.37E+08	3.34E−04
			127.432	0	784733	5	5	1.45E+08	3.52E−04
			127.428	1051.5	785809	7	9	1.02E+07	3.19E−05
			127.387	0	785012	5	7	1.29E+07	4.41E−05
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$*	^{3}F$-^3$G^o	*127.179*	*1349.7*	*787643*	21	27	3.78E+10	1.18E−01
			127.486	2331.5	786732	9	7	4.80E+07	9.10E−05
			127.323	2331.5	787737	9	9	2.36E+09	5.74E−03
			127.278	1051.5	786732	7	7	3.04E+09	7.38E−03
			127.256	2331.5	788146	9	11	3.77E+10	1.12E−01
			127.116	1051.5	787737	7	9	3.53E+10	1.10E−01
			127.108	0	786732	5	7	3.48E+10	1.18E−01
Fe VII	$3p^6 3d^2 - 3p^6 3d5f$	^{3}F$-^3$D^o	*127.099*	*1349.7*	*788140*	21	15	3.77E+09	6.52E−03
			127.231	2331.5	788303	9	7	3.45E+09	6.51E−03
			127.068	1051.5	788030	7	5	3.35E+09	5.79E−03
			127.024	1051.5	788303	7	7	3.00E+08	7.25E−04
			126.912	0	787945	5	3	3.78E+09	5.48E−03
			126.899	0	788030	5	5	4.22E+08	1.02E−03
			126.855	0	788303	5	7	8.59E+06	2.90E−05
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$	^{3}F$-^3$G^o	*125.529*	*1349.7*	*797978*	21	27	1.39E+10	4.22E−02
			126.292	2331.5	794149	9	7	1.74E+07	3.23E−05
			126.088	1051.5	794149	7	7	1.10E+09	2.62E−03
			125.921	0	794149	5	7	1.26E+10	4.21E−02
			125.726	2331.5	797712	9	9	8.65E+08	2.05E−03
			125.524	1051.5	797712	7	9	1.30E+10	3.96E−02
			125.266	2331.5	800633	9	11	1.40E+10	4.03E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$	^{3}F$-^3$D^o	*123.099*	*1349.7*	*813705*	21	15	4.46E+09	7.23E−03
			123.494	2331.5	812086	9	7	4.05E+09	7.21E−03
			123.299	1051.5	812086	7	7	3.51E+08	8.01E−04
			123.140	0	812086	5	7	1.01E+07	3.21E−05
			123.028	1051.5	813877	7	5	3.96E+09	6.42E−03
			122.869	0	813877	5	5	4.99E+08	1.13E−03
			122.370	0	817195	5	3	4.54E+09	6.11E−03
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$	^{3}F$-^3$D^o	*121.345*	*1349.7*	*825448*	21	15	4.66E+09	7.35E−03
			121.553	0	822689	5	3	4.64E+09	6.17E−03
			121.487	1051.5	824184	7	5	4.13E+09	6.53E−03
			121.332	0	824184	5	5	5.21E+08	1.15E−03
			121.183	2331.5	827533	9	7	4.30E+09	7.36E−03
			120.995	1051.5	827533	7	7	3.74E+08	8.20E−04
			120.841	0	827533	5	7	1.07E+07	3.29E−05
Fe VII	$3p^6 3d^2 - 3p^6 3d6f$*	^{3}F$-^3$G^o	*120.250*	*1349.7*	*832952*	21	27	4.81E+10	1.34E−01
			120.401	2331.5	832889	9	11	4.86E+10	1.29E−01
			120.400	2331.5	832893	9	9	3.01E+09	6.55E−03
			120.366	2331.5	833128	9	7	6.16E+07	1.04E−04
			120.215	1051.5	832893	7	9	4.56E+10	1.27E−01
			120.181	1051.5	833128	7	7	3.90E+09	8.44E−03
			120.030	0	833128	5	7	4.46E+10	1.35E−01
Fe VII	$3p^6 3d^2 - 3p^6 3d6f$	^{3}F$-^3$F^o	*117.269*	*1349.7*	*854093*	21	21	2.58E+10	5.31E−02
			117.458	2331.5	853697	9	7	2.06E+09	3.31E−03
			117.318	1051.5	853433	7	5	2.86E+09	4.21E−03
			117.311	2331.5	854767	9	9	2.41E+10	4.97E−02
			117.282	1051.5	853697	7	7	2.16E+10	4.46E−02
			117.174	0	853433	5	5	2.29E+10	4.72E−02
			117.138	0	853697	5	7	2.05E+09	5.91E−03
			117.135	1051.5	854767	7	9	1.61E+09	4.27E−03
Fe VII	$3p^6 3d^2 - 3p^5 3d^2 4s$*	^{3}F$-^3$G^o	*117.038*	*1349.7*	*855774*	21	27	1.70E+08	4.50E−04
			117.312	2331.5	854760	9	7	2.16E+05	3.46E−07
			117.146	2331.5	855969	9	9	1.06E+07	2.19E−05
			117.136	1051.5	854760	7	7	1.37E+07	2.81E−05
			117.106	2331.5	856260	9	11	1.70E+08	4.27E−04
			116.992	0	854760	5	7	1.57E+08	4.50E−04
			116.970	1051.5	855969	7	9	1.60E+08	4.22E−04
Fe VII	$3p^6 3d^2 - 3p^6 3d6f$	^{3}F$-^3$D^o	*117.023*	*1349.7*	*855880*	21	15	2.49E+08	3.65E−04
			117.127	2331.5	856109	9	7	2.28E+08	3.65E−04
			116.951	1051.5	856109	7	7	1.98E+07	4.06E−05
			116.912	0	855346	5	3	2.51E+08	3.08E−04
			116.808	0	856109	5	7	5.66E+05	1.62E−06
				1051.5		7	5	2.24E+08	3.29E−04
				0		5	5	2.81E+07	5.76E−05
Fe VII	$3p^6 3d^2 - 3p^6 3d7f$	^{3}F$-^3$F^o	*111.8372*	*1349.7*	*895506*	21	21	1.63E+10	3.06E−02
			112.0307	2331.5	894944	9	7	1.31E+09	1.91E−03
			111.8986	1051.5	894718	7	5	1.81E+09	2.43E−03
			111.8703	1051.5	894944	7	7	1.37E+10	2.57E−02
			111.8505	2331.5	896382	9	9	1.53E+10	2.87E−02
			111.7671	0	894718	5	5	1.46E+10	2.73E−02
			111.7388	0	894944	5	7	1.30E+09	3.41E−03
			111.6906	1051.5	896382	7	9	1.02E+09	2.46E−03
Fe VII	$3p^6 3d^2 - 3p^6 3d7f$	^{3}F$-^3$G^o	*111.6752*	*1349.7*	*896804*	21	27	3.37E+10	8.09E−02
			111.9304	2331.5	895744	9	7	4.26E+07	6.23E−05
			111.7702	1051.5	895744	7	7	2.70E+09	5.05E−03
			111.7636	2331.5	897077	9	9	2.10E+09	3.93E−03
			111.7415	2331.5	897254	9	11	3.36E+10	7.69E−02
			111.6390	0	895744	5	7	3.09E+10	8.09E−02
			111.6040	1051.5	897077	7	9	3.16E+10	7.59E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VII	$3p^6 3d^2 - 3p^6 3d8f$	^{3}F$-^3$F^o	*108.5496*	*1349.7*	*922587*	21	21	1.56E+10	2.76E−02
			108.7710	2331.5	921694	9	7	1.25E+09	1.72E−03
			108.6198	1051.5	921694	7	7	1.31E+10	2.31E−02
			108.5835	2331.5	923282	9	9	1.46E+10	2.58E−02
			108.4959	0	921694	5	7	1.24E+09	3.07E−03
			108.4328	1051.5	923282	7	9	9.80E+08	2.22E−03
				0		5	5	1.40E+10	2.48E−02
				1051.5		7	5	1.75E+09	2.21E−03
Fe VII	$3p^6 3d^2 - 3p^6 3d8f$	^{3}F$-^3$G^o	*108.4089*	*1349.7*	*923783*	21	27	2.33E+10	5.27E−02
			108.5323	2331.5	923716	9	9	1.45E+09	2.56E−03
			108.5180	2331.5	923838	9	11	2.32E+10	5.01E−02
			108.3818	1051.5	923716	7	9	2.19E+10	4.95E−02
				0		5	7	2.16E+10	5.33E−02
				1051.5		7	7	1.89E+09	3.33E−03
				2331.5		9	7	3.01E+07	4.12E−05
Fe VII	$3p^6 3d^2 - 3p^6 3d9f$	^{3}F$-^3$G^o	*106.3122*	*1349.7*	*941975*	21	27	1.68E+10	3.65E−02
			106.4298	2331.5	941918	9	9	1.04E+09	1.77E−03
			106.4180	2331.5	942022	9	11	1.67E+10	3.46E−02
			106.2850	1051.5	941918	7	9	1.57E+10	3.42E−02
				0		5	7	1.56E+10	3.69E−02
				1051.5		7	7	1.36E+09	2.30E−03
				2331.5		9	7	2.15E+07	2.84E−05
Fe VII	$3p^6 3d^2 - 3p^6 3d10f$	^{3}F$-^3$G^o	*104.8670*	*1349.7*	*954938*	21	27	1.25E+10	2.66E−02
			104.9789	2331.5	954904	9	9	7.81E+08	1.29E−03
			104.9721	2331.5	954966	9	11	1.25E+10	2.53E−02
			104.8380	1051.5	954904	7	9	1.18E+10	2.49E−02
				0		5	7	1.17E+10	2.69E−02
				1051.5		7	7	1.02E+09	1.68E−03
				2331.5		9	7	1.62E+07	2.08E−05
Fe VIII	$3p^6 3d - 3p^5 3d^2$:	^{2}D$-^2$F^o	*231.462*	*1102*	*433139*	10	14	1.22E+09	1.37E−02
			232.876	1836	431250	6	6	7.97E+07	6.48E−04
			231.884	0	431250	4	6	1.13E+09	1.37E−02
			231.097	1836	434555	6	8	1.23E+09	1.31E−02
Fe VIII	$3p^6 3d - 3p^5 3d^2$	^{2}D$-^2$F^o	*221.447*	*1102*	*452676*	10	14	3.12E+09	3.21E−02
			224.305	1836	447658	6	8	2.99E+09	3.01E−02
			218.564	1836	459367	6	6	2.16E+08	1.55E−03
			217.691	0	459367	4	6	3.06E+09	3.26E−02
Fe VIII	$3p^6 3d - 3p^5 3d^2$	^{2}D$-^2$P^o	*195.497*	*1102*	*512619*	10	6	1.32E+09	4.55E−03
			197.362	1836	508518	6	4	1.16E+09	4.51E−03
			196.650	0	508518	4	4	1.30E+08	7.54E−04
			192.004	0	520822	4	2	1.40E+09	3.86E−03
Fe VIII	$3p^6 3d - 3p^6 4p$	^{2}D$-^2$P^o	*195.049*	*1102*	*513792*	10	6	4.24E+10	1.45E−01
			195.972	0	510277	4	2	4.17E+10	1.20E−01
			194.661	1836	515550	6	4	3.83E+10	1.45E−01
			193.968	0	515550	4	4	4.29E+09	2.42E−02
Fe VIII	$3p^6 3d - 3p^5 3d^2$	^{2}D$-^2$F^o	*185.822*	*1102*	*539250*	10	14	9.77E+10	7.08E−01
			187.240	1836	535909	6	6	6.35E+09	3.34E−02
			186.599	0	535909	4	6	9.00E+10	7.05E−01
			185.213	1836	541755	6	8	9.87E+10	6.77E−01
Fe VIII	$3p^6 3d - 3p^5 3d^2$:	^{2}D$-^2$P^o	*168.638*	*1102*	*594089*	10	6	2.23E+11	5.70E−01
			168.929	0	591964	4	2	2.22E+11	4.74E−01
			168.544	1836	595152	6	4	2.01E+11	5.71E−01
			168.024	0	595152	4	4	2.25E+10	9.54E−02
Fe VIII	$3p^6 3d - 3p^5 3d^2$:	^{2}D$-^2$D^o	*167.897*	*1102*	*596704*	10	10	1.26E+08	5.33E−04
			168.173	1836	596463	6	6	1.17E+08	4.96E−04
			168.003	1836	597065	6	4	1.25E+07	3.54E−05
			167.655	0	596463	4	6	8.45E+06	5.34E−05
			167.486	0	597065	4	4	1.14E+08	4.81E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe VIII	$3p^6 3d - 3p^6 4f$	^{2}D$-^2$F^o	*131.121*	*1102*	*763758*	10	14	1.57E+11	5.68E−01
			131.257	1836	763703	6	6	1.05E+10	2.70E−02
			131.240	1836	763799	6	8	1.57E+11	5.40E−01
			130.941	0	763703	4	6	1.48E+11	5.69E−01
Fe VIII	$3p^6 3d - 3p^5 3d(^3\mathrm{P}^o) 4s$	^{2}D$-^2$P^o	*119.047*	*1102*	*841106*	10	6	3.33E+10	4.25E−02
			119.380	0	837661	4	2	3.30E+10	3.53E−02
			118.907	1836	842829	6	4	3.01E+10	4.25E−02
			118.648	0	842829	4	4	3.37E+09	7.11E−03
Fe VIII	$3p^6 3d - 3p^5 3d(^3\mathrm{F}^o) 4s$	^{2}D$-^2$F^o	*116.773*	*1102*	*857464*	10	14	3.88E+10	1.11E−01
			117.197	1836	855100	6	8	3.82E+10	1.05E−01
			116.444	1836	860615	6	6	2.62E+09	5.33E−03
			116.196	0	860615	4	6	3.69E+10	1.12E−01
Fe VIII	$3p^6 3d - 3p^5 3d(^1\mathrm{D}^o) 4s$	^{2}D$-^2$D^o	*113.374*	*1102*	*883137*	10	10	6.59E+08	1.27E−03
			113.700	1836	881345	6	4	6.56E+07	8.47E−05
			113.463	0	881345	4	4	5.96E+08	1.15E−03
			113.315	1836	884331	6	6	6.18E+08	1.19E−03
			113.080	0	884331	4	6	4.45E+07	1.28E−04
Fe VIII	$3p^6 3d - 3p^5 3d(^1\mathrm{F}^o) 4s$	^{2}D$-^2$F^o	*113.293*	*1102*	*883766*	10	14	2.02E+10	5.45E−02
			114.001	1836	879021	6	6	1.32E+09	2.58E−03
			113.763	0	879021	4	6	1.87E+10	5.43E−02
			112.932	1836	887325	6	8	2.04E+10	5.21E−02
Fe VIII	$3p^6 3d - 3p^5 3d(^3\mathrm{D}^o) 4s$	^{2}D$-^2$D^o	*112.4795*	*1102*	*890152*	10	10	4.90E+10	9.30E−02
			112.7044	1836	889113	6	4	4.88E+09	6.19E−03
			112.4848	1836	890845	6	6	4.58E+10	8.68E−02
			112.4716	0	889113	4	4	4.41E+10	8.37E−02
			112.2530	0	890845	4	6	3.29E+09	9.32E−03
Fe VIII	$3p^6 3d - 3p^6 5f$	^{2}D$-^2$F^o	*107.9935*	*1102*	*927084*	10	14	8.05E+10	1.97E−01
			108.0821	1836	927059	6	6	5.37E+09	9.40E−03
			108.0770	1836	927102	6	8	8.05E+10	1.88E−01
			107.8680	0	927059	4	6	7.57E+10	1.98E−01
Fe VIII	$3p^6 3d - 3p^6 6f$	^{2}D$-^2$F^o	*98.4771*	*1102*	*1016566*	10	14	5.16E+10	1.05E−01
			98.5490	1836	1016560	6	6	3.45E+09	5.02E−03
			98.5480	1836	1016570	6	8	5.20E+10	1.01E−01
			98.3710	0	1016560	4	6	4.87E+10	1.06E−01
Fe VIII	$3p^6 3d - 3p^6 7f$	^{2}D$-^2$F^o	*93.5576*	*1102*	*1069962*	10	14	3.97E+10	7.30E−02
			93.6297	1836	1069873	6	6	2.64E+09	3.47E−03
			93.6160	1836	1070029	6	8	3.97E+10	6.95E−02
			93.4690	0	1069873	4	6	3.72E+10	7.30E−02
Fe IX	$3s^2 3p^6 - 3s^2 3p^5 3d$	^{1}S$-^1$P^o	171.073	0	584546	1	3	2.32E+11	3.05E+00
Fe IX	$3s^2 3p^6 - 3s^2 3p^5 4d$	^{1}S$-^1$P^o	82.4300	0	1213150	1	3	1.79E+11	5.48E−01
Fe IX	$3s^2 3p^6 - 3s 3p^6 4p$	^{1}S$-^1$P^o	72.8911	0	1371910	1	3	2.66E+10	6.35E−02
Fe X	$3s^2 3p^5 - 3s 3p^6$	^{2}P$^o-^2$S	*352.086*	*5227.7*	289249	6	2	4.54E+09	2.81E−02
			365.543	15683.1	289249	2	2	1.35E+09	2.71E−02
			345.723	0	289249	4	2	3.19E+09	2.86E−02
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D}) 3d$:	^{2}P$^o-^2$P	*234.357*	*5227.7*	*431928*	6	6	3.92E+08	3.23E−03
			240.243	15683.1	431928	2	4	6.07E+07	1.05E−03
			231.520	0	431928	4	4	3.40E+08	2.73E−03
				15683.1		2	2	2.59E+08	2.13E−03
				0		4	2	1.29E+08	5.33E−04
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D}) 3d$	^{2}P$^o-^2$D	*232.891*	*5227.7*	*434614*	6	10	1.48E+08	2.00E−03
			238.703	15683.1	434614	2	4	1.14E+08	1.95E−03
			230.089	0	434614	4	4	2.54E+07	2.02E−04
				0		4	6	1.50E+08	1.83E−03
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{S}) 3d$	^{2}P$^o-^2$D	*197.405*	*5227.7*	*511800*	6	10	5.25E+07	5.11E−04
			201.565	15683.1	511800	2	4	4.11E+07	5.01E−04
			195.389	0	511800	4	4	9.03E+06	5.17E−05
				0		4	6	5.31E+07	4.65E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^o - ^2\mathrm{S}$	*186.341*	*5227.7*	541879	6	2	1.65E+11	2.87E−01
			190.043	15683.1	541879	2	2	5.21E+10	2.82E−01
			184.543	0	541879	4	2	1.14E+11	2.90E−01
Fe X	$3s^2 3p^5 - 3p^4(^3\mathrm{P})3d$:	$^2\mathrm{P}^o - ^2\mathrm{P}$	*178.285*	*5227.7*	*566127*	6	6	1.56E+11	7.43E−01
			182.310	15683.1	564198	2	4	2.43E+10	2.42E−01
			180.407	15683.1	569985	2	2	1.00E+11	4.90E−01
			177.243	0	564198	4	4	1.32E+11	6.22E−01
			175.443	0	569985	4	2	5.46E+10	1.26E−01
Fe X	$3s^2 3p^5 - 3p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*174.507*	*5227.7*	*578270*	6	10	1.88E+11	1.43E+00
			175.266	15683.1	586244	2	4	1.53E+11	1.41E+00
			174.534	0	572954	4	6	1.87E+11	1.28E+00
			170.577	0	586244	4	4	3.35E+10	1.46E−01
Fe X	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4s$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*96.342*	*5227.7*	*1043200*	6	6	1.08E+11	1.50E−01
			97.593	15683.1	1040350	2	4	1.73E+10	4.94E−02
			96.786	15683.1	1048890	2	2	7.07E+10	9.93E−02
			96.121	0	1040350	4	4	9.10E+10	1.26E−01
			95.339	0	1048890	4	2	3.71E+10	2.53E−02
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4s$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*94.459*	*5227.7*	*1063890*	6	10	3.92E+10	8.73E−02
			95.374	15683.1	1064190	2	4	3.17E+10	8.65E−02
			94.012	0	1063690	4	6	3.97E+10	7.90E−02
			93.968	0	1064190	4	4	6.62E+09	8.77E−03
Fe X	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*78.1613*	*5227.7*	*1284630*	6	10	1.21E+11	1.85E−01
			78.7714	15683.1	1285180	2	4	9.89E+10	1.84E−01
			77.8652	0	1284270	4	6	1.22E+11	1.67E−01
			77.8101	0	1285180	4	4	2.05E+10	1.86E−02
Fe X	$3s^2 3p^5 - 3p^4(^3\mathrm{P})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*77.5174*	*5227.7*	*1295260*	6	6	2.59E+10	2.33E−02
			78.1508	15683.1	1295260	2	4	4.22E+09	7.72E−03
			77.2046	0	1295260	4	4	2.19E+10	1.96E−02
				15683.1		2	2	1.74E+10	1.57E−02
				0		4	2	8.70E+09	3.92E−03
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*76.2760*	*5227.7*	*1316260*	6	6	1.50E+11	1.31E−01
			76.9227	15683.1	1315690	2	4	2.45E+10	4.35E−02
			76.8222	15683.1	1317390	2	2	9.84E+10	8.71E−02
			76.0057	0	1315690	4	4	1.27E+11	1.10E−01
			75.9077	0	1317390	4	2	5.12E+10	2.21E−02
Fe X	$3s^2 3p^5 - 3p^4(^1\mathrm{D})4d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*75.9464*	*5227.7*	*1321950*	6	10	9.09E+10	1.31E−01
			76.4949	15683.1	1322960	2	4	7.41E+10	1.30E−01
			75.6848	0	1321270	4	6	9.24E+10	1.19E−01
			75.5881	0	1322960	4	4	1.54E+10	1.32E−02
Fe XI	$3s^2 3p^4 - 3s3p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*353.758*	*5812.9*	*288492*	9	9	3.29E+09	6.17E−02
			369.153	12667.9	283558	3	5	7.25E+08	2.47E−02
			358.621	14312	293158	1	3	1.05E+09	6.09E−02
			356.519	12667.9	293158	3	3	8.03E+08	1.53E−02
			352.662	0	283558	5	5	2.49E+09	4.65E−02
			349.046	12667.9	299163	3	1	3.42E+09	2.08E−02
			341.113	0	293158	5	3	1.53E+09	1.60E−02
Fe XI	$3s^2 3p^4 - 3p^3(^2\mathrm{P}^o)3d$:	$^3\mathrm{P} - ^3\mathrm{P}^o$	*203.97*	*5812.9*	*496090*	9	9	4.15E+09	2.59E−02
			206.86	12667.9	496090	3	5	9.91E+08	1.06E−02
			201.58	0	496090	5	5	3.23E+09	1.97E−02
				12667.9		3	3	1.02E+09	6.39E−03
				0		5	3	1.71E+09	6.39E−03
				12667.9		3	1	4.10E+09	8.52E−03
				14312		1	3	1.37E+09	2.56E−02
Fe XI	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)3d$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*189.52*	*5812.9*	533450	9	3	9.41E+10	1.69E−01
			192.63	14312	533450	1	3	9.95E+09	1.66E−01
			192.02	12667.9	533450	3	3	3.02E+10	1.67E−01
			187.46	0	533450	5	3	5.41E+10	1.71E−01

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XI	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)3d$:	$^3\mathrm{P} - ^3\mathrm{P}^o$	*188.68*	*5812.9*	*535820*	9	9	1.22E+11	6.51E−01
			192.82	12667.9	531290	3	5	2.85E+10	2.65E−01
			189.73	14312	541390	1	3	4.00E+10	6.47E−01
			189.14	12667.9	541390	3	3	3.02E+10	1.62E−01
			189.02	12667.9	541720	3	1	1.22E+11	2.17E−01
			188.22	0	531290	5	5	9.23E+10	4.90E−01
			184.71	0	541390	5	3	5.41E+10	1.66E−01
Fe XI	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)3d$:	$^3\mathrm{P} - ^3\mathrm{D}^o$	*180.72*	*5812.9*	*559150*	9	15	1.36E+11	1.11E+00
			182.17	12667.9	561610	3	5	9.95E+10	8.25E−01
			181.14	14312	566380	1	3	7.45E+10	1.10E+00
			180.60	12667.9	566380	3	3	5.69E+10	2.78E−01
			180.41	0	554300	5	7	1.37E+11	9.33E−01
			178.06	0	561610	5	5	3.53E+10	1.68E−01
			176.56	0	566380	5	3	4.03E+09	1.13E−02
Fe XI	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)4s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*89.653*	*5812.9*	1121230	9	3	1.68E+11	6.75E−02
			90.341	14312	1121230	1	3	1.83E+10	6.70E−02
			90.207	12667.9	1121230	3	3	5.50E+10	6.71E−02
			89.188	0	1121230	5	3	9.48E+10	6.78E−02
Fe XI	$3s^2 3p^4 - 3p^3(^2\mathrm{D}^o)4s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*87.3554*	*5812.9*	*1150560*	9	15	4.80E+10	9.15E−02
			88.1618	14312	1148590	1	3	2.59E+10	9.07E−02
			88.0342	12667.9	1148590	3	3	1.95E+10	2.27E−02
			87.9947	12667.9	1149100	3	5	3.52E+10	6.82E−02
			87.0633	0	1148590	5	3	1.35E+09	9.18E−04
			87.0246	0	1149100	5	5	1.21E+10	1.37E−02
			86.7717	0	1152450	5	7	4.90E+10	7.74E−02
Fe XI	$3s^2 3p^4 - 3p^3(^4\mathrm{S}^o)4d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*72.9428*	*5812.9*	*1376750*	9	15	1.00E+11	1.33E−01
			72.6348	0	1376750	5	7	1.01E+11	1.12E−01
				12667.9		3	5	7.52E+10	1.00E−01
				14312		1	3	5.56E+10	1.33E−01
				0		5	5	2.51E+10	2.00E−02
				12667.9		3	3	4.17E+10	3.33E−02
				0		5	3	2.78E+09	1.33E−03
Fe XII	$3s^2 3p^3 - 3s3p^4$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*357.263*	0	*279906*	4	12	1.81E+09	1.04E−01
			364.467	0	274373	4	6	1.70E+09	5.07E−02
			352.106	0	284005	4	4	1.88E+09	3.50E−02
			346.852	0	288307	4	2	1.97E+09	1.78E−02
Fe XII	$3s^2 3p^3 - 3p^2(^3\mathrm{P})3d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*194.13*	0	*515130*	4	12	8.97E+10	1.52E+00
			195.12	0	512510	4	6	8.85E+10	7.58E−01
			193.52	0	516740	4	4	9.07E+10	5.09E−01
			192.39	0	519770	4	2	9.23E+10	2.56E−01
Fe XII	$3s^2 3p^3 - 3p^2(^3\mathrm{P})4s$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*79.8353*	0	*1252580*	4	12	6.52E+10	1.87E−01
			80.5153	0	1242000	4	2	6.38E+10	3.10E−02
			80.0218	0	1249660	4	4	6.49E+10	6.23E−02
			79.4881	0	1258050	4	6	6.62E+10	9.41E−02
Fe XII	$3s^2 3p^3 - 3p^2(^3\mathrm{P})4d$	$^4\mathrm{S}^o - ^4\mathrm{P}$	*66.1397*	0	*1511950*	4	12	2.66E+11	5.24E−01
			66.2972	0	1508360	4	6	2.64E+11	2.61E−01
			65.9048	0	1517340	4	4	2.69E+11	1.75E−01
				0		4	2	2.67E+11	8.75E−02
Fe XIII	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*363.311*	*13412.5*	*288659*	9	15	1.55E+09	5.11E−02
			372.240	18561.0	287205	5	3	4.00E+07	4.99E−04
			372.025	18561.0	287360	5	5	3.61E+08	7.49E−03
			368.122	18561.0	290210	5	7	1.49E+09	4.24E−02
			359.838	9302.5	287205	3	3	6.65E+08	1.29E−02
			359.638	9302.5	287360	3	5	1.20E+09	3.88E−02
			348.183	0	287205	1	3	9.77E+08	5.33E−02
Fe XIII	$3s^2 3p^2 - 3s3p^3$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*315.827*	*13412.5*	*330042*	9	9	4.17E+09	6.23E−02
			321.455	18561.0	329647	5	3	1.65E+09	1.53E−02
			320.803	18561.0	330279	5	5	2.98E+09	4.60E−02
			312.164	9302.5	329647	3	3	1.08E+09	1.58E−02
			311.549	9302.5	330279	3	5	1.08E+09	2.63E−02
			303.355	0	329647	1	3	1.57E+09	6.49E−02
				9302.5		3	1	3.95E+09	1.97E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XIII	$3s^23p^2-3s3p^3$	^{3}P–^{3}S^o	*248.726*	*13412.5*	415462	9	3	6.37E+10	1.97E−01
			251.952	18561.0	415462	5	3	3.40E+10	1.94E−01
			246.209	9302.5	415462	3	3	2.19E+10	1.99E−01
			240.696	0	415462	1	3	7.83E+09	2.04E−01
Fe XIII	$3s^23p^2-3s^23p3d$	^{3}P–^{3}P^o	*209.339*	*13412.5*	*491106*	9	9	4.34E+10	2.85E−01
			213.768	18561.0	486358	5	5	3.05E+10	2.09E−01
			209.916	18561.0	494942	5	3	1.79E+10	7.10E−02
			209.619	9302.5	486358	3	5	1.07E+10	1.18E−01
			205.914	9302.5	494942	3	3	1.14E+10	7.23E−02
			202.414	9302.5	503340	3	1	4.79E+10	9.81E−02
			202.044	0	494942	1	3	1.61E+10	2.95E−01
Fe XIII	$3s^23p^2-3s^23p3d$	^{3}P–^{3}D^o	*201.917*	*13412.5*	*508666*	9	15	6.99E+10	7.12E−01
			204.943	18561.0	506502	5	3	1.86E+09	7.02E−03
			203.826	18561.0	509176	5	7	6.80E+10	5.93E−01
			203.795	18561.0	509250	5	5	1.70E+10	1.06E−01
			201.127	9302.5	506502	3	3	2.95E+10	1.79E−01
			200.021	9302.5	509250	3	5	5.39E+10	5.39E−01
			197.433	0	506502	1	3	4.15E+10	7.28E−01
Fe XIII	$3s^23p^2-3s^23p4s$	^{3}P–^{3}P^o	*74.9431*	*13412.5*	*1347760*	9	9	1.20E+11	1.01E−01
			75.8922	18561.0	1336220	5	3	4.81E+10	2.49E−02
			75.3626	9302.5	1336220	3	3	2.94E+10	2.50E−02
			74.8436	18561.0	1354680	5	5	9.01E+10	7.57E−02
			74.8380	0	1336220	1	3	4.01E+10	1.01E−01
			74.3286	9302.5	1354680	3	5	3.06E+10	4.23E−02
				9302.5		3	1	1.20E+11	3.36E−02
Fe XIII	$3s^23p^2-3s^23p4d$	^{3}P–^{3}D^o	*62.8172*	*13412.5*	*1605330*	9	15	3.51E+11	3.46E−01
			63.0832	18561.0	1603770	5	3	9.64E+09	3.45E−03
			63.0653	18561.0	1604220	5	5	8.65E+10	5.16E−02
			62.9628	18561.0	1606800	5	7	3.49E+11	2.90E−01
			62.7169	9302.5	1603770	3	3	1.47E+11	8.66E−02
			62.6992	9302.5	1604220	3	5	2.65E+11	2.60E−01
			62.3531	0	1603770	1	3	2.00E+11	3.49E−01
Fe XIII	$3s^23p^2-3s^23p4d$	^{3}P–^{3}P^o	*62.24*	*13412.5*	*1620000*	9	9	1.82E+11	1.06E−01
			62.08	9302.5	1620000	3	1	1.83E+11	3.53E−02
				18561.0		5	5	1.36E+11	7.92E−02
				9302.5		3	3	4.55E+10	2.64E−02
				18561.0		5	3	7.58E+10	2.64E−02
				9302.5		3	5	4.55E+10	4.40E−02
				0		1	3	6.08E+10	1.06E−01
Fe XIV	$3s^23p-3s3p^2$	^{2}P^o–^{2}D	*347.205*	*12568.3*	*300582*	6	10	2.26E+09	6.82E−02
			356.639	18852.5	299248	4	4	3.48E+08	6.64E−03
			353.833	18852.5	301472	4	6	2.14E+09	6.03E−02
			334.171	0	299248	2	4	2.12E+09	7.09E−02
Fe XIV	$3s^23p-3s3p^2$	^{2}P^o–^{2}S	*283.990*	*12568.3*	364693	6	2	1.38E+10	5.58E−02
			289.151	18852.5	364693	4	2	8.74E+09	5.48E−02
			274.203	0	364693	2	2	5.13E+09	5.78E−02
Fe XIV	$3s^23p-3s3p^2$	^{2}P^o–^{2}P	*262.276*	*12568.3*	*393847*	6	6	4.17E+10	4.30E−01
			270.521	18852.5	388510	4	2	1.27E+10	6.96E−02
			264.787	18852.5	396515	4	4	3.38E+10	3.55E−01
			257.394	0	388510	2	2	2.95E+10	2.93E−01
			252.197	0	396515	2	4	7.81E+09	1.49E−01
Fe XIV	$3s^23p-3s^23d$	^{2}P^o–^{2}D	*216.519*	*12568.3*	*474421*	6	10	4.13E+10	4.84E−01
			220.083	18852.5	473227	4	4	6.55E+09	4.76E−02
			219.123	18852.5	475217	4	6	3.98E+10	4.30E−01
			211.315	0	473227	2	4	3.70E+10	4.96E−01
Fe XIV	$3s^23p-3s^24s$	^{2}P^o–^{2}S	*70.3012*	*12568.3*	1435020	6	2	2.63E+11	6.49E−02
			70.6131	18852.5	1435020	4	2	1.73E+11	6.46E−02
			69.6854	0	1435020	2	2	9.00E+10	6.55E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XIV	$3s^2 3p - 3s^2 4d$	$^2P^o - ^2D$	*59.3755*	*12568.3*	*1696770*	6	10	3.21E+11	2.83E−01
			59.6258	18852.5	1695980	4	4	5.29E+10	2.82E−02
			59.5792	18852.5	1697290	4	6	3.18E+11	2.54E−01
			58.9630	0	1695980	2	4	2.73E+11	2.85E−01
Fe XV	$3s^2 - 3s3p$	$^1S - ^1P^o$	284.163	0	351911	1	3	2.27E+10	8.24E−01
Fe XV	$3s^2 - 3p3d$	$^1S - ^1P^o$	93.0330	0	1074887	1	3	3.29E+08	1.28E−03
Fe XV	$3s^2 - 3s4p$	$^1S - ^1P^o$	52.9109	0	1889970	1	3	3.24E+11	4.08E−01
Fe XV	$3s^2 - 3s5p$	$^1S - ^1P^o$	38.956	0	2567000	1	3	1.60E+11	1.09E−01
Fe XVI	$2p^6 3s - 2p^6 3p$	$^2S - ^2P^o$	*343.455*	0	*291159*	2	6	7.29E+09	3.87E−01
			360.761	0	277192	2	2	6.25E+09	1.22E−01
			335.410	0	298143	2	4	7.86E+09	2.65E−01
Fe XVI	$2p^6 3s - 2p^6 4p$	$^2S - ^2P^o$	*50.4181*	0	*1983410*	2	6	2.08E+11	2.38E−01
			50.5551	0	1978040	2	2	2.07E+11	7.93E−02
			50.3499	0	1986100	2	4	2.09E+11	1.59E−01
Fe XVI	$2p^6 3s - 2p^6 5p$	$^2S - ^2P^o$	*36.7670*	0	*2719830*	2	6	1.20E+11	7.28E−02
			36.8030	0	2717170	2	2	1.19E+11	2.42E−02
			36.7490	0	2721160	2	4	1.20E+11	4.85E−02
Fe XVI	$2p^6 3s - 2p^6 6p$	$^2S - ^2P^o$	*32.174*	0	*3108100*	2	6	7.13E+10	3.32E−02
			32.192	0	3106400	2	2	7.14E+10	1.11E−02
			32.166	0	3108900	2	4	7.12E+10	2.21E−02
Fe XVI	$2p^6 3s - 2p^6 7p$	$^2S - ^2P^o$	*29.93*	0	*3341000*	2	6	4.54E+10	1.83E−02
			29.93	0	3341000	2	4	4.54E+10	1.22E−02
				0		2	2	4.50E+10	6.05E−03
Fe XVI	$2p^6 3s - 2p^6 8p$	$^2S - ^2P^o$	*28.67*	0	*3488000*	2	6	3.06E+10	1.13E−02
			28.67	0	3488000	2	4	3.06E+10	7.55E−03
				0		2	2	3.03E+10	3.73E−03
Fe XVI	$2p^6 3s - 2p^6 9p$	$^2S - ^2P^o$	*27.88*	0	*3587000*	2	6	2.15E+10	7.52E−03
			27.88	0	3587000	2	4	2.15E+10	5.02E−03
				0		2	2	2.13E+10	2.48E−03
Fe XVII	$2s^2 2p^6 - 2p^5 3d$	$^1S - ^1P^o$	15.015	0	6660000	1	3	2.91E+13	2.95E+00
Fe XVII	$2s^2 2p^6 - 2p^6 3p$	$^1S - ^1P^o$	13.823	0	7234300	1	3	3.85E+12	3.31E−01
Fe XVII	$2s^2 2p^6 - 2p^5 4d$	$^1S - ^1P^o$	12.12	0	8249000	1	3	1.12E+13	7.42E−01
Fe XVII	$2s^2 2p^6 - 2p^5 5d$	$^1S - ^1P^o$	11.13	0	8982000	1	3	6.21E+12	3.46E−01
Fe XVII	$2s^2 2p^6 - 2p^6 4p$	$^1S - ^1P^o$	11.02	0	9072000	1	3	1.71E+12	9.35E−02
Fe XVII	$2s^2 2p^6 - 2p^6 5p$	$^1S - ^1P^o$	10.12	0	9878000	1	3	1.10E+12	5.05E−02
Fe XVIII	$2s^2 2p^5 - 2s2p^6$	$^2P^o - ^2S$	*97.0394*	*34193*	1064702	6	2	1.07E+11	5.04E−02
			103.9368	102579	1064702	2	2	2.91E+10	4.71E−02
			93.9230	0	1064702	4	2	7.88E+10	5.21E−02
Fe XVIII	$2s^2 2p^5 - 2p^4(^3P)3s$	$^2P^o - ^2P$	*16.012*	*34193*	*6279600*	6	6	2.56E+12	9.84E−02
			16.272	102579	6248100	2	4	4.07E+11	3.23E−02
			16.026	102579	6342600	2	2	1.70E+12	6.55E−02
			16.005	0	6248100	4	4	2.14E+12	8.20E−02
			15.766	0	6342600	4	2	8.96E+11	1.67E−02
Fe XVIII	$2s^2 2p^5 - 2p^4(^1D)3s$	$^2P^o - ^2D$	*15.705*	*34193*	*6401500*	6	10	1.03E+12	6.36E−02
			15.870	102579	6403800	2	4	8.33E+11	6.29E−02
			15.625	0	6400000	4	6	1.05E+12	5.76E−02
			15.616	0	6403800	4	4	1.75E+11	6.39E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^1S)3s$	$^2P^o - ^2S$	*15.288*	*34193*	6575100	6	2	1.06E+12	1.24E−02
			15.450	102579	6575100	2	2	3.44E+11	1.23E−02
			15.209	0	6575100	4	2	7.27E+11	1.26E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XVIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*14.465*	*34193*	*6947300*	6	6	1.45E+12	4.56E−02
			14.610	102579	6947300	2	4	2.36E+11	1.51E−02
			14.394	0	6947300	4	4	1.23E+12	3.81E−02
				102579		2	2	9.59E+11	3.01E−02
				0		4	2	4.80E+11	7.53E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*14.444*	*34193*	*6957500*	6	10	7.44E+12	3.88E−01
			14.373	0	6957500	4	6	7.58E+12	3.52E−01
				102579		2	4	6.15E+12	3.85E−01
				0		4	4	1.23E+12	3.85E−02
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{S}$	*14.326*	*34193*	7014300	6	2	1.93E+13	1.98E−01
			14.468	102579	7014300	2	2	6.25E+12	1.96E−01
			14.257	0	7014300	4	2	1.31E+13	1.99E−01
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*14.253*	*34193*	*7050300*	6	6	2.49E+13	7.57E−01
			14.418	102579	7038400	2	4	4.01E+12	2.50E−01
			14.344	102579	7074200	2	2	1.62E+13	5.01E−01
			14.208	0	7038400	4	4	2.09E+13	6.33E−01
			14.136	0	7074200	4	2	8.48E+12	1.27E−01
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*14.252*	*34193*	*7050900*	6	10	2.05E+13	1.04E+00
			14.361	102579	7066100	2	4	1.68E+13	1.04E+00
			14.203	0	7040800	4	6	2.07E+13	9.39E−01
			14.152	0	7066100	4	4	3.50E+12	1.05E−01
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{S})3d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*14.007*	*34193*	*7173600*	6	10	5.20E+12	2.55E−01
			14.121	102579	7184300	2	4	4.21E+12	2.52E−01
			13.954	0	7166400	4	6	5.25E+12	2.30E−01
			13.919	0	7184300	4	4	8.81E+11	2.56E−02
Fe XVIII	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*13.404*	*34193*	*7494600*	6	6	4.08E+12	1.10E−01
			13.541	102579	7487800	2	4	6.58E+11	3.62E−02
			13.503	102579	7508100	2	2	2.66E+12	7.26E−02
			13.355	0	7487800	4	4	3.43E+12	9.18E−02
			13.319	0	7508100	4	2	1.38E+12	1.84E−02
Fe XVIII	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*13.371*	*34193*	*7513100*	6	10	3.51E+12	1.57E−01
			13.397	102579	7567000	2	4	2.92E+12	1.57E−01
			13.374	0	7477200	4	6	3.51E+12	1.41E−01
			13.215	0	7567000	4	4	6.07E+11	1.59E−02
Fe XVIII	$2s^2 2p^5 - 2p^5(^3\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{S}$	*13.218*	*34193*	7599400	6	2	5.55E+12	4.85E−02
			13.339	102579	7599400	2	2	1.80E+12	4.80E−02
			13.159	0	7599400	4	2	3.75E+12	4.87E−02
Fe XVIII	$2s^2 2p^5 - 2p^5(^1\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*12.917*	*34193*	*7775700*	6	10	1.30E+12	5.42E−02
			13.053	102579	7763400	2	4	1.05E+12	5.36E−02
			12.881	0	7763400	4	4	2.18E+11	5.43E−03
			12.847	0	7783900	4	6	1.32E+12	4.90E−02
Fe XVIII	$2s^2 2p^5 - 2p^5(^1\mathrm{P}^\circ)3p$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*12.891*	*34193*	*7791600*	6	6	1.07E+12	2.67E−02
			13.015	102579	7786000	2	2	6.93E+11	1.76E−02
			13.001	102579	7794400	2	4	1.74E+11	8.80E−03
			12.844	0	7786000	4	2	3.60E+11	4.45E−03
			12.830	0	7794400	4	4	9.04E+11	2.23E−02
Fe XVIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^\circ - ^2\mathrm{D}$	*10.55*	*34193*	*9510000*	6	10	3.12E+12	8.69E−02
			10.52	0	9510000	4	6	3.16E+12	7.85E−02
				102579		2	4	2.61E+12	8.70E−02
				0		4	4	5.21E+11	8.70E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})5d$	$^2\mathrm{P}^\circ - ^2\mathrm{P}$	*10.41*	*34193*	*9640000*	6	6	1.45E+12	2.36E−02
			10.49	102579	9640000	2	4	2.37E+11	7.82E−03
			10.37	0	9640000	4	4	1.22E+12	1.97E−02
				102579		2	2	9.60E+11	1.56E−02
				0		4	2	4.79E+11	3.89E−03

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*10.37*	*34193*	*9680000*	6	6	2.90E+12	4.67E−02
			10.44	102579	9680000	2	2	1.89E+12	3.09E−02
			10.44	102579	9680000	2	4	4.74E+11	1.55E−02
			10.33	0	9680000	4	4	2.44E+12	3.91E−02
			10.33	0	9680000	4	2	9.76E+11	7.81E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})5d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*10.37*	*34193*	*9680000*	6	10	1.47E+12	3.95E−02
			10.44	102579	9680000	2	4	1.20E+12	3.92E−02
			10.33	0	9680000	4	4	2.47E+11	3.96E−03
				0		4	6	1.46E+12	3.54E−02
Fe XVIII	$2s^2 2p^5 - 2p^4(^3\mathrm{P})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*10.06*	*34193*	*9970000*	6	10	2.15E+12	5.45E−02
			10.03	0	9970000	4	6	2.17E+12	4.92E−02
				102579		2	4	1.79E+12	5.45E−02
				0		4	4	3.59E+11	5.45E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})6d$	$^2\mathrm{P}^o - ^2\mathrm{P}$	*9.91*	*34193*	*10120000*	6	6	1.36E+12	2.01E−02
			9.98	102579	10120000	2	2	8.84E+11	1.32E−02
			9.88	0	10120000	4	2	4.58E+11	3.35E−03
				0		4	4	1.13E+12	1.67E−02
				102579		2	4	2.26E+11	6.67E−03
Fe XVIII	$2s^2 2p^5 - 2p^4(^1\mathrm{D})6d$	$^2\mathrm{P}^o - ^2\mathrm{D}$	*9.91*	*34193*	*10120000*	6	10	6.43E+11	1.58E−02
			9.98	102579	10120000	2	4	5.25E+11	1.57E−02
			9.88	0	10120000	4	4	1.09E+11	1.59E−03
				0		4	6	6.42E+11	1.42E−02
Fe XIX	$2s^2 2p^4 - 2s2p^5$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*109.023*	*38175*	*955410*	9	9	4.96E+10	8.84E−02
			119.983	89441	922890	3	5	9.31E+09	3.35E−02
			111.695	89441	984740	3	3	1.15E+10	2.15E−02
			109.952	75250	984740	1	3	1.61E+10	8.76E−02
			108.355	0	922890	5	5	3.79E+10	6.67E−02
			106.317	89441	1030020	3	1	5.35E+10	3.02E−02
			101.550	0	984740	5	3	2.55E+10	2.37E−02
Fe XIX	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)3s$	$^3\mathrm{P} - ^3\mathrm{S}^o$	*15.06*	*38175*	6680000	9	3	3.45E+12	3.91E−02
			15.17	89441	6680000	3	3	1.12E+12	3.88E−02
			15.14	75250	6680000	1	3	3.76E+11	3.88E−02
			14.97	0	6680000	5	3	1.95E+12	3.93E−02
Fe XIX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)3s$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*14.79*	*38175*	*6802000*	9	15	1.11E+12	6.08E−02
			14.93	89441	6787000	3	5	8.11E+11	4.52E−02
			14.93	89441	6788000	3	3	4.49E+11	1.50E−02
			14.90	75250	6788000	1	3	6.05E+11	6.04E−02
			14.73	0	6787000	5	5	2.81E+11	9.15E−03
			14.73	0	6788000	5	3	3.13E+10	6.11E−04
			14.67	0	6818000	5	7	1.14E+12	5.16E−02
Fe XIX	$2s^2 2p^4 - 2p^3(^2\mathrm{P}^o)3s$	$^3\mathrm{P} - ^3\mathrm{P}^o$	*14.47*	*38175*	*6947000*	9	9	1.17E+12	3.67E−02
			14.67	89441	6907000	3	1	1.12E+12	1.20E−02
			14.63	89441	6923000	3	3	2.82E+11	9.06E−03
			14.60	75250	6923000	1	3	3.78E+11	3.63E−02
			14.53	89441	6970000	3	5	2.88E+11	1.52E−02
			14.44	0	6923000	5	3	4.89E+11	9.18E−03
			14.35	0	6970000	5	5	8.98E+11	2.77E−02
Fe XIX	$2s^2 2p^4 - 2p^3(^4\mathrm{S}^o)5d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*9.85*	*38175*	*10190000*	9	15	2.64E+12	6.40E−02
			9.81	0	10190000	5	7	2.67E+12	5.39E−02
				89441		3	5	1.97E+12	4.77E−02
				75250		1	3	1.46E+12	6.35E−02
				0		5	5	6.55E+11	9.53E−03
				89441		3	3	1.09E+12	1.59E−02
				0		5	3	7.29E+10	6.36E−04
Fe XIX	$2s^2 2p^4 - 2p^3(^2\mathrm{D}^o)5d$	$^3\mathrm{P} - ^3\mathrm{D}^o$	*9.72*	*38175*	*10330000*	9	15	1.64E+12	3.88E−02
			9.77	89441	10330000	3	5	1.21E+12	2.89E−02
			9.68	0	10330000	5	7	1.66E+12	3.27E−02
			9.68	0	10330000	5	5	4.16E+11	5.84E−03
				75250		1	3	9.09E+11	3.86E−02
				89441		3	3	6.81E+11	9.64E−03
				0		5	3	4.55E+10	3.86E−04

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XIX	$2s^2 2p^4 - 2p^3(^2P^o)5d$	$^3P - ^3D^o$	*9.57*	*38175*	*10485000*	9	15	1.48E+12	3.39E−02
			9.65	89441	10450000	3	3	6.02E+11	8.41E−03
			9.64	75250	10450000	1	3	8.06E+11	3.37E−02
			9.57	0	10450000	5	3	4.12E+10	3.39E−04
			9.52	0	105	5	7	1.50E+12	2.86E−02
				89441		3	5	1.11E+12	2.53E−02
				0		5	5	3.68E+11	5.05E−03
Fe XIX	$2s^2 2p^4 - 2p^3(^2P^o)5d$	$^3P - ^3P^o$	*9.56*	*38175*	*10500000*	9	9	8.03E+11	1.10E−02
			9.61	89441	10500000	3	3	1.98E+11	2.74E−03
			9.59	75250	10500000	1	3	2.66E+11	1.10E−02
			9.52	0	10500000	5	3	3.38E+11	2.76E−03
				0		5	5	5.97E+11	8.18E−03
				89441		3	5	1.99E+11	4.55E−03
				89441		3	1	7.97E+11	3.64E−03
Fe XIX	$2s^2 2p^4 - 2p^3(^4S^o)6d$	$^3P - ^3D^o$	*9.37*	*38175*	*10710000*	9	15	1.70E+12	3.74E−02
			9.34	0	10710000	5	7	1.73E+12	3.16E−02
				89441		3	5	1.27E+12	2.78E−02
				75250		1	3	9.39E+11	3.71E−02
				0		5	5	4.23E+11	5.57E−03
				89441		3	3	7.05E+11	9.28E−03
				0		5	3	4.70E+10	3.71E−04
Fe XIX	$2s^2 2p^4 - 2p^3(^2P^o)6d$	$^3P - ^3D^o$	*9.33*	*38175*	*10760000*	9	15	4.36E+11	9.48E−03
			9.37	89441	10760000	3	3	1.79E+11	2.36E−03
			9.36	75250	10760000	1	3	2.40E+11	9.44E−03
			9.29	0	10760000	5	3	1.22E+10	9.51E−05
				0		5	7	4.42E+11	8.07E−03
				89441		3	5	3.32E+11	7.21E−03
				0		5	5	1.10E+11	1.44E−03
Fe XX	$2s^2 2p^3 - 2s2p^4$	$^4S^o - ^4P$	*126.51*	0	*790430*	4	12	1.56E+10	1.12E−01
			132.85	0	752730	4	6	1.34E+10	5.33E−02
			121.83	0	820820	4	4	1.74E+10	3.88E−02
			118.66	0	842740	4	2	1.89E+10	2.00E−02
Fe XX	$2s^2 2p^3 - 2p^2(^3P)3d$	$^4S^o - ^4P$	*12.82*	0	*7802000*	4	12	2.54E+13	1.88E+00
			12.82	0	7802000	4	6	2.56E+13	9.44E−01
			12.82	0	7802000	4	4	2.55E+13	6.29E−01
				0		4	2	2.53E+13	3.12E−01
Fe XX	$2s^2 2p^3 - 2p^2(^3P)4d$	$^4S^o - ^4P$	*10.06*	0	*9944500*	4	12	8.40E+12	3.82E−01
			10.12	0	9880000	4	6	8.25E+12	1.90E−01
			9.991	0	10009000	4	4	8.55E+12	1.28E−01
			9.991	0	10009000	4	2	8.58E+12	6.42E−02
Fe XX	$2s^2 2p^3 - 2p^2(^3P)5d$	$^4S^o - ^4P$	*9.100*	0	*10989000*	4	12	3.79E+12	1.41E−01
			9.149	0	10930000	4	6	3.73E+12	7.03E−02
			9.051	0	11048000	4	4	3.86E+12	4.74E−02
			9.051	0	11048000	4	2	3.86E+12	2.37E−02
Fe XXI	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3D^o$	*142.89*	*89813*	*789640*	9	15	8.43E+09	4.30E−02
			151.65	117353	776780	5	3	1.96E+08	4.05E−04
			151.52	117353	777350	5	5	1.77E+09	6.09E−03
			145.65	117353	803930	5	7	7.97E+09	3.55E−02
			142.26	73850	776780	3	3	3.56E+09	1.08E−02
			142.15	73850	777350	3	5	6.42E+09	3.24E−02
			128.74	0	776780	1	3	6.41E+09	4.78E−02
Fe XXI	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3P^o$	*118.51*	*89813*	*933620*	9	9	2.30E+10	4.85E−02
			123.83	117353	924880	5	3	8.41E+09	1.16E−02
			121.22	117353	942320	5	5	1.62E+10	3.56E−02
			118.69	73850	916380	3	1	2.29E+10	1.61E−02
			117.50	73850	924880	3	3	5.89E+09	1.22E−02
			115.15	73850	942320	3	5	6.25E+09	2.07E−02
			108.122	0	924880	1	3	1.01E+10	5.31E−02
Fe XXI	$2s^2 2p^2 - 2s2p^3$	$^3P - ^3S^o$	*99.425*	*89813*	1095600	9	3	1.04E+11	5.16E−02
			102.224	117353	1095600	5	3	5.34E+10	5.02E−02
			97.871	73850	1095600	3	3	3.66E+10	5.25E−02
			91.274	0	1095600	1	3	1.50E+10	5.62E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XXI	$2s^22p^2-2s^22p3d$	^{3}P$-^3$D^o	*12.358*	*89813*	*8181500*	9	15	2.53E+13	9.64E−01
			12.465	117353	8140000	5	3	6.84E+11	9.56E−03
			12.397	73850	8140000	3	3	1.04E+13	2.40E−01
			12.392	117353	8187400	5	5	6.26E+12	1.44E−01
			12.380	117353	8195000	5	7	2.51E+13	8.09E−01
			12.325	73850	8187400	3	5	1.91E+13	7.25E−01
			12.285	0	8140000	1	3	1.43E+13	9.70E−01
Fe XXI	$2s^22p^2-2s^22p3d$	^{3}P$-^3$P^o	*12.283*	*89813*	*8230900*	9	9	1.40E+13	3.16E−01
			12.325	117353	8230900	5	5	1.04E+13	2.37E−01
			12.259	73850	8230900	3	5	3.54E+12	1.33E−01
				73850		3	3	3.46E+12	7.83E−02
				117353		5	3	5.77E+12	7.83E−02
				73850		3	1	1.38E+13	1.04E−01
				0		1	3	4.61E+12	3.13E−01
Fe XXI	$2s^22p^2-2s^22p4s$	^{3}P$-^3$P^o	*9.72*	*89813*	*10380000*	9	9	6.86E+11	9.72E−03
			9.74	117353	10380000	5	3	2.83E+11	2.42E−03
			9.70	73850	10380000	3	3	1.72E+11	2.43E−03
			9.63	0	10380000	1	3	2.35E+11	9.80E−03
				117353		5	5	5.16E+11	7.30E−03
				73850		3	5	1.72E+11	4.06E−03
				73850		3	1	6.86E+11	3.24E−03
Fe XXI	$2s^22p^2-2s^22p4d$	^{3}P$-^3$D^o	*9.512*	*89813*	*10603000*	9	15	8.36E+12	1.89E−01
			9.588	117353	10547000	5	5	2.04E+12	2.81E−02
			9.583	117353	10553000	5	3	2.26E+11	1.87E−03
			9.548	73850	10547000	3	5	6.19E+12	1.41E−01
			9.543	73850	10553000	3	3	3.44E+12	4.69E−02
			9.482	117353	10664000	5	7	8.43E+12	1.59E−01
			9.476	0	10553000	1	3	4.70E+12	1.90E−01
Fe XXI	$2s^22p^2-2s^22p4d$	^{3}P$-^3$P^o	*9.50*	*89813*	*10620000*	9	9	4.54E+12	6.14E−02
			9.558	117353	10580000	5	5	3.34E+12	4.58E−02
			9.518	73850	10580000	3	5	1.13E+12	2.56E−02
			9.460	117353	10688000	5	3	1.91E+12	1.54E−02
			9.421	73850	10688000	3	3	1.16E+12	1.55E−02
			9.356	0	10688000	1	3	1.58E+12	6.24E−02
				73850		3	1	4.53E+12	2.04E−02
Fe XXI	$2s^22p^2-2s^22p5d$	^{3}P$-^3$D^o	*8.57*	*89813*	*11761000*	9	15	3.89E+12	7.14E−02
			8.660	117353	11665000	5	3	1.05E+11	7.07E−04
			8.627	73850	11665000	3	3	1.59E+12	1.77E−02
			8.573	0	11665000	1	3	2.16E+12	7.14E−02
			8.558	117353	11802000	5	7	3.91E+12	6.01E−02
				73850		3	5	2.90E+12	5.32E−02
				117353		5	5	9.63E+11	1.06E−02
Fe XXI	$2s^22p^2-2s^22p5d$	^{3}P$-^3$P^o	*8.53*	*89813*	*11810000*	9	9	2.14E+12	2.34E−02
			8.552	117353	11810000	5	3	8.86E+11	5.83E−03
			8.521	73850	11810000	3	3	5.38E+11	5.86E−03
			8.467	0	11810000	1	3	7.32E+11	2.36E−02
				117353		5	5	1.59E+12	1.73E−02
				73850		3	5	5.29E+11	9.63E−03
				73850		3	1	2.12E+12	7.70E−03
Fe XXII	$2s^22p-2s2p^2$	^{2}P$^o-^2$D	*148.91*	*78850*	*750380*	6	10	7.09E+09	3.93E−02
			161.75	118270	736520	4	4	9.23E+08	3.62E−03
			155.92	118270	759620	4	6	6.16E+09	3.37E−02
			135.77	0	736520	2	4	7.80E+09	4.31E−02
Fe XXII	$2s^22p-2s2p^2$	^{2}P$^o-^2$P	*115.32*	*78850*	*946020*	6	6	4.72E+10	9.41E−02
			136.02	118270	853480	4	2	9.59E+09	1.33E−02
			117.17	0	853480	2	2	3.00E+10	6.17E−02
			114.41	118270	992290	4	4	4.03E+10	7.90E−02
			100.777	0	992290	2	4	1.18E+10	3.58E−02
Fe XXII	$2s^22p-2s2p^2$	^{2}P$^o-^2$S	*111.19*	*78850*	978220	6	2	3.40E+10	2.10E−02
			116.29	118270	978220	4	2	1.98E+10	2.01E−02
			102.226	0	978220	2	2	1.46E+10	2.28E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XXII	$2s^2 2p - 2s^2 3d$	^{2}P^o – ^{2}D	*11.87*	*78850*	*8503000*	6	10	1.92E+13	6.75E−01
			11.93	118270	8498000	4	4	3.14E+12	6.71E−02
			11.92	118270	8507000	4	6	1.89E+13	6.04E−01
			11.77	0	8498000	2	4	1.64E+13	6.80E−01
Fe XXII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o – ^{2}P	*11.66*	*78850*	*8653000*	6	6	7.85E+12	1.60E−01
			11.81	118270	8584000	4	2	2.50E+12	2.62E−02
			11.67	118270	8688000	4	4	6.51E+12	1.33E−01
			11.65	0	8584000	2	2	5.26E+12	1.07E−01
			11.51	0	8688000	2	4	1.35E+12	5.38E−02
Fe XXII	$2s^2 2p - 2s2p(^3\mathrm{P}^o)3p$	^{2}P^o – ^{2}D	*11.46*	*78850*	*8803000*	6	10	9.96E+12	3.27E−01
			11.60	118270	8740000	4	4	1.60E+12	3.23E−02
			11.46	118270	8845000	4	6	9.99E+12	2.95E−01
			11.44	0	8740000	2	4	8.36E+12	3.28E−01
Fe XXII	$2s^2 2p - 2s^2 4s$	^{2}P^o – ^{2}S	*9.11*	*78850*	11050000	6	2	9.35E+11	3.88E−03
			9.15	118270	11050000	4	2	6.17E+11	3.87E−03
			9.05	0	11050000	2	2	3.18E+11	3.91E−03
Fe XXII	$2s^2 2p - 2s^2 4d$	^{2}P^o – ^{2}D	*9.04*	*78850*	*11140000*	6	10	6.12E+12	1.25E−01
			9.07	118270	11140000	4	6	6.05E+12	1.12E−01
			9.07	118270	11140000	4	4	1.01E+12	1.25E−02
			8.98	0	11140000	2	4	5.17E+12	1.25E−01
Fe XXIII	$2s^2 - 2s2p$	^{1}S – ^{1}P^o	132.83	0	752840	1	3	1.92E+10	1.52E−01
Fe XXIII	$2s^2 - 2s3p$	^{1}S – ^{1}P^o	10.981	0	9107000	1	3	1.28E+13	6.95E−01
Fe XXIII	$2s^2 - 2p3s$	^{1}S – ^{1}P^o	10.560	0	9470000	1	3	8.61E+11	4.32E−02
Fe XXIII	$2s^2 - 2p3d$	^{1}S – ^{1}P^o	10.175	0	9828000	1	3	7.09E+11	3.30E−02
Fe XXIII	$2s^2 - 2s4p$	^{1}S – ^{1}P^o	8.3029	0	12044000	1	3	5.77E+12	1.79E−01
Fe XXIII	$2s^2 - 2s5p$	^{1}S – ^{1}P^o	7.4722	0	13383000	1	3	2.92E+12	7.33E−02
Fe XXIV	$1s^2 2s - 1s^2 2p$	^{2}S – ^{2}P^o	*209.29*	0	*477810*	2	6	3.36E+09	6.62E−02
			255.10	0	392000	2	2	1.86E+09	1.81E−02
			192.04	0	520720	2	4	4.36E+09	4.82E−02
Fe XXIV	$1s^2 2s - 1s^2 3p$	^{2}S – ^{2}P^o	*10.634*	0	*9404000*	2	6	7.71E+12	3.92E−01
			10.663	0	9378000	2	2	7.68E+12	1.31E−01
			10.619	0	9417000	2	4	7.72E+12	2.61E−01
Fe XXIV	$1s^2 2s - 1s^2 4p$	^{2}S – ^{2}P^o	*7.9893*	0	*12517000*	2	6	3.37E+12	9.67E−02
			7.9962	0	12506000	2	2	3.36E+12	3.22E−02
			7.9859	0	12522000	2	4	3.37E+12	6.45E−02
Fe XXIV	$1s^2 2s - 1s^2 5p$	^{2}S – ^{2}P^o	*7.1690*	0	*13949000*	2	6	1.73E+12	4.00E−02
			7.1690	0	13949000	2	4	1.73E+12	2.66E−02
			7.1690	0	13949000	2	2	1.71E+12	1.32E−02
Fe XXIV	$1s^2 2s - 1s^2 6p$	^{2}S – ^{2}P^o	*6.7870*	0	*14734000*	2	6	9.99E+11	2.07E−02
			6.7870	0	14734000	2	4	1.01E+12	1.39E−02
			6.7870	0	14734000	2	2	1.00E+12	6.91E−03
Fe XXV	$1s^2 - 1s2p$	^{1}S – ^{1}P^o	1.8504	0	[54042420]	1	3	5.18E+14	7.98E−01
Fe XXV	$1s^2 - 1s3p$	^{1}S – ^{1}P^o	1.5732	0	[63565760]	1	3	1.40E+14	1.56E−01
Fe XXV	$1s^2 - 1s4p$	^{1}S – ^{1}P^o	1.4946	0	[66907500]	1	3	5.76E+13	5.79E−02
Fe XXV	$1s^2 - 1s5p$	^{1}S – ^{1}P^o	1.4608	0	[68454700]	1	3	2.90E+13	2.78E−02
Fe XXVI	$1s - 2p$	^{2}S – ^{2}P^o	*1.7798*	0	*56184600*	2	6	2.92E+14	4.16E−01
			1.7835	0	[56070500]	2	2	2.91E+14	1.39E−01
			1.7780	0	[56241600]	2	4	2.92E+14	2.77E−01
Fe XXVI	$1s - 3p$	^{2}S – ^{2}P^o	*1.5028*	0	*66544600*	2	6	7.78E+13	7.90E−02
			1.5035	0	[66510800]	2	2	7.76E+13	2.63E−02
			1.5024	0	[66561500]	2	4	7.79E+13	5.27E−02

Table 1. Wavelengths and Oscillator Strengths of Permitted Resonance Absorption Lines

Species	Transition	Multiplet	λ, Å	E_i, cm^{-1}	E_k, cm^{-1}	g_i	g_k	A_{ki}, s^{-1}	f_{ik}
Fe XXVI	$1s-4p$	$^2S-^2P^o$	*1.4251*	0	*70172100*	2	6	3.17E+13	2.90E−02
			1.4254	0	[70157900]	2	2	3.17E+13	9.67E−03
			1.4249	0	[70179300]	2	4	3.17E+13	1.93E−02
Fe XXVI	$1s-5p$	$^2S-^2P^o$	*1.3918*	0	*71850300*	2	6	1.60E+13	1.39E−02
			1.3919	0	[71843000]	2	2	1.60E+13	4.65E−03
			1.3917	0	[71853900]	2	4	1.60E+13	9.30E−03
Fe XXVI	$1s-6p$	$^2S-^2P^o$	*1.3744*	0	*72757100*	2	6	9.18E+12	7.80E−03
			1.3744	0	[72757100]	2	4	9.18E+12	5.20E−03
			1.3744	0	[72757100]	2	2	9.18E+12	2.60E−03
Fe XXVI	$1s-7p$	$^2S-^2P^o$	*1.3641*	0	*73307700*	2	6	5.76E+12	4.82E−03
			1.3641	0	[73307700]	2	4	5.75E+12	3.21E−03
			1.3641	0	[73307700]	2	2	5.74E+12	1.60E−03
Fe XXVI	$1s-8p$	$^2S-^2P^o$	*1.3575*	0	*73664800*	2	6	3.85E+12	3.19E−03
			1.3575	0	[73664800]	2	4	3.84E+12	2.12E−03
			1.3575	0	[73664800]	2	2	3.84E+12	1.06E−03
Fe XXVI	$1s-9p$	$^2S-^2P^o$	*1.3530*	0	*73909500*	2	6	2.70E+12	2.22E−03
			1.3530	0	[73909500]	2	4	2.70E+12	1.48E−03
			1.3530	0	[73909500]	2	2	2.69E+12	7.38E−04
Fe XXVI	$1s-10p$	$^2S-^2P^o$	*1.3498*	0	*74084400*	2	6	1.95E+12	1.60E−03
			1.3498	0	[74084400]	2	4	1.96E+12	1.07E−03
			1.3498	0	[74084400]	2	2	1.96E+12	5.35E−04