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Nacionalidad: Española

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FORMACIÓN Y ESTUDIOS

- **Licenciatura en Física Fundamental** Universidad de Granada (1993 -1999).
- **Ingeniería Electrónica** Pulsos Electromagnéticos (EMP), Origen nuclear y sus efectos en dispositivos electrónicos, Universidad de Granada (1999) .
- **Doctorado (PhD) en Física Nuclear Experimental** (2000 - 2003)
“Multi-quasiparticles and shape-driving effects in ^{128}Xe , ^{127}I and ^{125}Sb ”
Supervisor: Prof. Alison M. Bruce, University of Brighton, Brighton, East Sussex, UK.
- **Cursos y Escuelas de Verano**

Métodos matemáticos aplicados a la ciencia y a las técnicas, Universidad de Granada, 1999.

Modelos nucleares: Strasbourg Theory Workshop, 2001, IreS (Strasbourg, Francia).

UK Summer School in Nuclear Physics, 2001, Bangor (Gales, Reino Unido).

RIA Summer School on Exotic Beam Physics, 2005, UC Berkeley (California, EEUU).

Nuclear Astrophysics School on Nuclear Shell Model Applications, 2006, Michigan State University (Michigan, EEUU).

RIA Summer School on Exotic Beam Physics, 2006, Oak Ridge (TN, EEUU).
- **Postdoctoral Scholar**
University of Kentucky, Lexington, Kentucky, EEUU (2003 - 2006),
Profesores: M. T. McEllistrem and S. W. Yates.
- **Research Associate**
University of Kentucky, Lexington, Kentucky, EEUU (2006 - 2007),
Profesores: M. T. McEllistrem and S. W. Yates.
- **Assistant Professor**
Eastern Kentucky University, Richmond, Kentucky, EEUU (2007).

PUBLICACIONES

- Study of the $K^\pi = 8^-$ isomeric decay in the N=74 isotone ^{128}Xe ,
J. N. Orce, A. M. Bruce, A. Emmanouilidis, C. Wheldon, P. M. Walker, M. Caamaño,
Zs. Podolyák, H. El-Masri, A. P. Byrne, G. D. Dracoulis, J.C. Hazel, T. Kibédi, D. M. Cullen,
[Prog. Theor. Phys. Sup. **146** \(2002\) 611.](#)
- Deviations from axial symmetry in ^{181}Os ,
Z. Podolyák, S. Al-Garni, R. F. Casten, J. R. Cooper, D. M. Cullen, A. Dewald, R. Krucken,
H. Newman, J. N. Orce, C. J. Pearson, C. Ur, R. Venturelli, S. Vincent, C. Wheldon,
P. M. Walker, F.R. Xu, A. Yamamoto, N. V. Zamfir, [Phys. Rev. C **66** \(2002\) 011304 \(R\).](#)
- Interplay between K-isomerism and gamma-softness in ^{128}Xe ,
J. N. Orce, A. M. Bruce, A. Emmanouilidis, C. Wheldon, F. R. Xu, P. M. Walker, M. Caamaño,
Zs. Podolyák, H. El-Masri, P. D. Stevenson, A.P. Byrne, G.D. Dracoulis, J.C. Hazel, T. Kibédi,
D. M. Cullen, [Act. Phys. Polonica B, V **34**, No 4 \(2003\) 2253.](#)
- Electromagnetic properties of pseudo-Nilsson bands in ^{185}Os ,
C. Wheldon, A.E. Stuchbery, A.N. Wilson, G.D. Dracoulis, A. M. Bruce, R.A. Bark, A.P. Byrne,
F. M. Prados-Estevéz, G.J. Lane, C.-B. Moon, J. N. Orce and R. Wood,
[The European Physical Journal A, V**19**, No 3 \(2004\) 319.](#)
- Test of isospin purity in the A = 42 isobaric analogs,
J. N. Orce, P. Petkov, C. J. McKay, S. N. Choudry, S. R. Leshner, M. Mynk, D. Bandyopadhyay,
S.W. Yates, and M.T. McEllistrem, [Phys. Rev. C **70** \(2004\) 014314.](#)
- Lifetime measurements and low-lying structure in ^{112}Sn ,
A. Kumar, J. N. Orce, S. R. Leshner, C. J. McKay, M. T. McEllistrem, and S. W. Yates,
[The European Physical Journal A V**25**, Supplement 1, p. 443 \(2005\).](#)
- Microsecond isomers in ^{125}Sb ,
D. Judson, A.M. Bruce, M.J. Taylor, G.D. Dracoulis, T. Kibedi, A.P. Byrne, K.-H. Maier,
P. Nieminen, and J. N. Orce, [J. Phys. G: Nucl. Part. Phys. **31** \(2005\) S1899-S1902.](#)
- Conversion-electron study of 0^+ excitations in ^{208}Pb ,
J. N. Orce, T. Kibédi, R. Julin, G. D. Dracoulis, and S. W. Yates,
[J. Phys. G: Nucl. Part. Phys. **31** \(2005\) S1705-S1708.](#)
- Octupole and Hexadecapole Bands in ^{152}Sm ,
P.E. Garrett *et al.*, [J. Phys. G: Nucl. Part. Phys. **31** \(2005\) S1855-S1858.](#)

- [Heterogeneous vibrations in \$^{112}\text{Sn}\$,](#)
 A. Kumar, J.N. Orce, S.R. Leshner, C.J. McKay, M.T. McEllistrem, and S.W. Yates,
[Phys. Rev. C **72**, 034313 \(2005\).](#)
- [High-K states in the odd-odd nuclide \$^{180}\text{Re}\$,](#)
 H. El-Masri , P. M. Walker, G. D. Dracoulis, T. Kibedi, A. P. Byrne, A. M. Bruce, J. N. Orce,
 A. Emmanouilidis, D. M. Cullen, C. Wheldon, and F. R. Xu, [Phys. Rev. C **72**, 054306 \(2005\).](#)
- [Symmetry of isoscalar matrix elements and systematics in the *sd* and *fp* shell,](#)
 J. N. Orce, P. Petkov, V. Velazquez, C.J. McKay, S.R. Leshner, S.N. Choudry, M. Mynk,
 A. Linnemann, J. Jolie, P. von Brentano, V. Werner, S.W. Yates, and M.T. McEllistrem,
[AIP Conf. Proc. **819**, 96 \(2006\) \(not refereed\).](#)
- [Charge-independent trend of isoscalar matrix elements along the N ~ Z line,](#)
 J. N. Orce and V. Velazquez, [Nucl. Phys. A **764**, 205 \(2006\).](#)
- [Identification of Mixed-Symmetry States in an Odd-Mass Nearly Spherical Nucleus,](#)
 J. N. Orce, J. D. Holt, A. Linnemann, C. J. McKay, S. R. Leshner, C. Fransen, J. W. Holt, A. Kumar,
 N. Warr, V. Werner, J. Jolie, T. T. S. Kuo, M. T. McEllistrem, N. Pietralla, and S. W. Yates,
[Phys. Rev. Lett. **97** 062504 \(2006\).](#)
- [Shape driving effects in the triaxial nucleus, \$^{128}\text{Xe}\$,](#)
 J. N. Orce, A.M. Bruce, A. Emmanouilidis, C. Wheldon, F.R. Xu, P.M. Walker, M. Caamaño,
 Zs. Podolyák, H. El-Masri, A.P. Byrne, G.D. Dracoulis, T. Kibédi, D.M. Cullen,
[Phys. Rev. C **74**, 034318 \(2006\).](#)
- [Anomalous behavior of the \$2^+\$ mixed-symmetry state in \$^{94}\text{Zr}\$,](#)
 E. Elhami, J.N. Orce, S. Mukhopadhyay, S. Choudry, M. Scheck, M.T. McEllistrem, and S. W. Yates,
[Phys. Rev. C **75**, 011301\(R\) \(2007\).](#)
- [Lifetime measurements in \$^{93}\text{Nb}\$ from photon and inelastic neutron scattering,](#)
 J. N. Orce, C. Fransen, A. Linnemann, C. J. McKay, S. R. Leshner, N. Pietralla, V. Werner,
 G. Friessner, C. Kohstall, D. Mucher, H.H. Pitz, M. Scheck, C. Scholl, F. Stedile, N. Warr,
 S. Walter, P. von Brentano, U. Kneissl, M. T. McEllistrem, and S. W. Yates,
[Phys. Rev. C **75**, 014303 \(2007\).](#)
- [Study of the low-spin structure of \$^{96}\text{Mo}\$ with the \$\(n,n'\gamma\)\$ reaction,](#)
 S.R. Leshner, C.J. McKay, M.G. Mynk, D. Bandyopadhyay, N. Boukharouba, C. Fransen, J. N. Orce,
 M. T. McEllistrem, and S. W. Yates, to be published in Phys. Rev. C (2007).
- [Low-energy collective structure of \$^{152}\text{Sm}\$,](#)
 W.D. Kulp, J.L. Wood, P.E. Garrett *et al.*, submitted to Phys. Rev. Lett. (2007).

- New spin assignments in the odd-odd $N=Z$ nucleus ^{42}Sc and the breaking of the ^{40}Ca core, C. Scholl, P. Petkov, V. Werner, A. Linnemann, T. Adachi, A. Dewald, A. Fitzler, C. Fransen, Y. Fujita, J. Jolie, K. Langanke, A.F. Lisetskiy, G. Martinez-Pinedo, D. Mucher, J. N. Orce, N. Pietralla, N. Warr, K.O. Zell, and P. von Brentano, submitted to Phys. Rev. C (2007).
- Study of 0^+ excitations in ^{158}Gd with the $(n,n'\gamma)$ reaction, S.R. Leshner, J.N. Orce, Z. N. Warr, N. Boukharouba, C. Fransen, M. Scheck, M.T. McEllistrem, and S.W. Yates, submitted to Phys. Rev. C (2007).
- ^{93}Nb : a comprehensive low-lying study of a nearly-spherical odd-mass nucleus, J. N. Orce, J. D. Holt, A. Linnemann, C. J. McKay, S. R. Leshner, C. Fransen, N. Warr, V. Werner, T. T. S. Kuo, M. T. McEllistrem, N. Pietralla, and S. W. Yates, to be submitted to the European Physical Journal A (2007).

CONFERENCIAS Y SEMINARIOS

- High Spin Structure in ^{128}Xe . North-West European Nuclear Physics Conference 2001 (Bergen, Noruega).
- Study of the $K^\pi = 8^-$ isomeric decay in the $N=74$ isotone ^{128}Xe . Physics of Unstable Nuclei 2001 (Yukawa Institute, Kyoto, Japón).
- Frontiers of K-isomerism in the mass $A \sim 130$ region. Frontiers of Nuclear Structure 2002 (Berkeley, California, EEUU).
- Gamma-softness vs K-isomers in the mass $A \sim 130$ region. XXXVII Zakopane School of Physics 2002, Trends in Nuclear Physics (Zakopane, Polonia).
- Isospin symmetry in the $A=42$ isobars. International conference on Nuclear Physics 2004 (Morelos, México).
- Identification of mixed-symmetry states in an odd- A nucleus: ^{93}Nb . The Fourth International Conference on Exotic Nuclei and Atomic Masses, ENAM 2004 (Pine Mountain, GA, EEUU).
- Study of 0^+ excitations in ^{208}Pb . NUSTAR 2005, International conference on the interface between Nuclear Structure, Astrophysics and Reactions (University of Surrey, Guildford, Reino Unido).
- Complex two-phonon and mixed-symmetry states in ^{93}Nb . Yale Workshop 2005, Nuclear Structure Physics near the Coulomb Barrier (Yale University, New Haven, EEUU).
- Isospin symmetry of isobaric triplets along the $N \sim Z$ line. Gordon Conference 2005, Nuclear Structure (New London, NH, EEUU).
- Negative- parity mixed-symmetry states in ^{93}Nb . RIA Summer School on Exotic Beam Physics 2005 (88-Inch Cyclotron Lawrence Berkeley National Laboratory, Berkeley, CA, EEUU).

- Identification of mixed-symmetry states in an odd-mass nearly spherical nucleus. Contemporary Frontiers in Nuclear Structure, American Chemical Society Meeting 2006 (Atlanta, GA, EEUU).
- Coupling between bosonic and fermionic degrees of freedom in ^{93}Nb . 2006 Division of Nuclear Physics Annual Meeting, APS (Nashville, TN, EEUU).
- Anomalous behaviour of the 2^+ mixed-symmetry state in ^{94}Zr
Exotic low-energy vibrational modes (invited talk).
2007 American Physical Society Meeting (Jacksonville, FL, EEUU).
- Seminarios dados en: University of Brighton, University of Kentucky, University of Cologne, Universidad Nacional Autónoma de México, Stony Brook University, University of Tennessee

ENSEÑANZA

- Isospin Physics (U. of Kentucky, 2005).
- Astronomy 192, Stars, Galaxies and the Universe (U. of Kentucky, 2006).
Evaluación del curso: 3.4 puntos de un máximo de 4.
- Astronomy 130, In Quest of the Universe (Eastern Kentucky University, 2007).
- Physics 232: Electromagnetismo y Óptica (U. of Kentucky, 2007).
- Supervisor de doctorantes en el grupo de Física Nuclear de Bajas Energías (U. de Kentucky).

OTRAS HABILIDADES Y EXPERIENCIA

- *Experimentos llevados a cabo en:* Australian National University (Australia), GANIL (Francia), University of Cologne (Alemania), Yale University (EEUU), University of Notre Dame (EEUU), Duke University (EEUU) y University of Kentucky (EEUU).
- *Informática*
Sistemas operativos: UNIX, Linux, DCP y Windows.
Editor científico: Latex.
Mathematica, Origin, MS Office applications and image processing.
Web Page Builder [1,2] and C++.
- *Análisis de datos:* Radware Package (coincidence data: matrices and cubes), ROOT, CNE, PACE, CASCADE, ANA, Sort-shell, TV, Midas,...
- *Cálculos teóricos:* IBM-2, shell model configuration mixing codes (ANTOINE, OXBASH), Cranked shell models, Potential Energy Surface calculations, BCS,...
- Operador certificado de aceleradores Tandem (FN Tandem Accelerator, University of Notre Dame y Australian National University) y aceleradores electrostáticos (U. of Kentucky).
- Certificado de Seguridad Radioactiva y Tratamiento de Materiales Radioactivos (U. of Kentucky, EEUU).
- Fabricación de blancos para el estudio de núcleos excitados con técnicas de evaporación.
- Certificado de Plan Químico de Higiene y Seguridad en el Laboratorio (U. of Kentucky, EEUU).
- Miembro de *TRIUMF* y *ATLAS*.
- Español, Inglés fluido, y conocimientos de Alemán.
- Permiso de conducir de EEUU y visado de trabajo H1b.

- Miembro de American Physical Society, Institute of Physics y Nuclear Energy Agency (NEA).
- Otros intereses: Dibujar comics [3], Historia y Filosofía de la Ciencia, Viajar, Leer, Jugar al tenis, fútbol, baloncesto y ajedrez.

BIBLIOGRAFÍA

- [1] Página Web Personal: <http://www.pa.uky.edu/~jnorce/>
- [2] Página Web del grupo de *Física Nuclear de Bajas Energías* en la Universidad de Kentucky: <http://www.pa.uky.edu/marcus/nukes.html>
- [3] *Isomeric and the mysterious case of The Radioactive Mango*, Diálogos y dibujos de J.N. Orce, <http://www.pa.uky.edu/~jnorce/radioactivemango0.html>

REFERENCIAS

● **Profesor Alison M. Bruce**

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● **Profesor Marcus T. McEllistrem**

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