



## Instituto Universitario de Investigación Carlos I de Física Teórica y Computacional

**Áreas de conocimiento:** Física atómica, molecular y nuclear. Física de la materia condensada. Astrofísica. Matemática Aplicada. Física Aplicada.

**Directora:** Elvira Romera Gutiérrez

**Secretario:** Miguel Ángel Muñoz Martínez

**Página web:** <http://www.ic1.ugr.es>

**Profesorado:** CU Ugr: 11; CU otras universidades: 9 PTU Ugr: 18; PTU otras universidades: 12; PDI Contratado y Otros Ugr: 7

### Tesis leídas

- Interactions involved in the permeation and distribution of ions and biomolecules inside charged microgels

Doctorando: Irene Adroher Benítez

Directores: Arturo Moncho Jordá y Gerardo Odriozola Prego

Fecha de lectura: 7 de abril de 2017

- Phase transitions and diversification in complex systems

Doctorando: Paula Villa Martín

Directores: Miguel A. Muñoz Martínez

Fecha de lectura: 24 de Febrero de 2017

### Grupos de Investigación.

FQM108 ASTROFÍSICA

- Responsable: EDUARDO BATTANER LOPEZ

FQM207 FÍSICA ATÓMICA Y MOLECULAR

- Responsable: JESÚS SÁNCHEZ-DEHESA MORENO-CID

FQM357 FÍSICA DE SISTEMAS COMPLEJOS

- Responsable: PEDRO LUIS GARRIDO GALERA

FQM362 FÍSICA ESTADÍSTICA DE SISTEMAS COMPLEJOS

- Responsable: PEDRO JUAN CARPENA SÁNCHEZ

FQM165 FÍSICA ESTADÍSTICA Y DE LOS SISTEMAS COMPLEJOS

- Responsable: JOAQUÍN MARRO BORAU

FQM278 FÍSICA ESTADÍSTICA Y DE MEDIOS DISPERSOS

- Responsable: JUAN JOSE ALONSO PEREDA

FQM225 FÍSICA NUCLEAR A ENERGÍAS INTERMEDIAS

- Responsable: JOSE ENRIQUE AMARO SORIANO

FQM020 FÍSICA Y QUÍMICA DE LA INFORMACIÓN

- Responsable: JUAN CARLOS ANGULO IBÁÑEZ

FQM381 Nanoestructuras, propiedades cuánticas y aplicaciones tecnológicas

- Responsable: JUAN B. ROLDAN ARANDA

FQM384 Ortogonalidad y Aplicaciones

- Responsable: TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ

### Dirección y participación en Proyectos I+D

- 2017 Desarrollo del subsistema de potencia para CubeSats y NanoSatélites, , 01/01/2017-31/12/2018

Investigador/a JUAN B. ROLDAN ARANDA

- 2017 Instituto Carlos I de Física Teórica y Computacional (iC1), Competitivo, 01/01/2017-31/12/2020

Investigador/a DAVID PUERTAS CENTENO

Responsable ELVIRA ROMERA GUTIÉRREZ

- 2016 DESARROLLO DE PANELES SOLARES DESPLEGABLES PARA CUBESATS Y PEQUEÑOS SATELITES:

DISEÑO, FABRICACIÓN, CARACTERIZACIÓN Y VALIDACIÓN (DEEPSAT), , 01/07/2016-31/12/2018

Investigador/a JUAN B. ROLDAN ARANDA

- 2016 Análisis Estructural de Modelos Matemáticos de Optimización en Localización y Planificación del Transporte, Competitivo, 01/01/2016-31/12/2019

Investigador/a ALEJANDRO ZARZO ALTAREJOS

- 2016 'INTERACCIONES Y PROPIEDADES COLECTIVAS DE SISTEMAS DE MATERIA BLANDA BASADOS EN NANOGELES/MICROGELES DE INTERES EN NANOTECNOLOGIA', Competitivo, 30/12/2016-29/12/2019

Responsable ARTURO MONCHO JORDÁ

- 2016 TEORIAS EFECTIVAS DE COSMOLOGIA Y GRAVEDAD, Competitivo, 30/12/2016-29/12/2019

Investigador/a PABLO SANCHEZ MORENO

- 2016 Dinámica de sistemas naturales y su efecto en morfología y estructura química, , 15/11/2016-31/12/2019

Investigador JULYAN CARTWRIGHT

### Publicaciones en revistas

- 2017 Artículo: Generalized quantum similarity in atomic systems: A quantifier of relativistic effects, Physica A.



- Statistical Mechanics and its Applications, 467, , 315-325  
JUAN CARLOS ANGULO IBÁÑEZ  
JUAN ANTONIO ANTOLIN COMA  
- 2017 Artículo: Double Inverse Stochastic Resonance with Dynamic Synapses, Physical Review E, 95, , 012404-012404  
JOAQUIN JAVIER TORRES AGUDO  
- 2017 Artículo: Effects of the extension of conductive filaments, a simulation approach, Journal of Vacuum Science&Technology B, 35, 1, 01A105-  
JUAN B. ROLDAN ARANDA  
- 2017 Artículo: In-depth study of the physics behind resistive switching in TiN/Ti/HfO<sub>2</sub>/W structures, Journal of Vacuum Science&Technology B, 35, 1, 01A110-1-01A110-5  
JUAN B. ROLDAN ARANDA  
- 2017 Artículo: Delocalization properties at isolated avoided crossings in Lipkin-Meshkov-Glick type Hamiltonian models,, Journal of Statistical Mechanics: Theory and Experiment, , , 013101-  
ELVIRA ROMERA GUTIÉRREZ  
MANUEL CALIXTO MOLINA  
- 2017 Artículo: Bivariate orthogonal polynomials, 2D Toda lattices and Lax-type pairs, Applied Mathematics and Computation, 309, , 142-155.  
TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ  
- 2017 Artículo: Three term relations for a class of bivariate orthogonal polynomials, Mediterranean Journal of Mathematics, 14, 2, 1-26  
TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ  
- 2017 Artículo: One-Parameter Fisher-Rényi Complexity: Notion and Hydrogenic Applications, Entropy, 19, , 16-  
PABLO SANCHEZ MORENO  
JESÚS SÁNCHEZ-DEHESA MORENO-CID  
- 2017 Artículo: Thermoresponsive microgels at the air-water interface: the impact of the swelling state on interfacial conformation, Soft Matter, 13, 1, 230-238  
ARTURO MONCHO JORDÁ  
- 2017 Artículo: Canonical bracket in quantum-classical hybrid systems, Physical Review A, 95, , 012137-1-012137-19  
LORENZO LUIS SALCEDO MORENO  
- 2017 Artículo: Polynomial pattern finding in scattered data, Journal of Computational and Applied Mathematics, 318, , 107-116  
JUAN B. ROLDAN ARANDA  
RAFAEL JOSÉ YÁÑEZ GARCÍA  
- 2017 Artículo: Probing the Broad-line Region and the Accretion Disk in the Lensed Quasars HE 0435-1223, WFI 2033-4723, and HE 2149-2745 Using Gravitational Microlensing, The Astrophysical Journal, 835, 2, 132-145  
JORGE JIMENEZ VICENTE  
- 2017 Artículo: Analysis of the classical phase space and energy transfer for two rotating dipoles with and without external electric field, Physical Review E (Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics), 95, , 012209-1-012209-9  
MARIA ROSARIO GONZÁLEZ FÉREZ  
- 2017 Artículo: Composite-boson approach to molecular Bose-Einstein condensates in mixtures of ultracold Fermi gases, Physical Review A, 95, , 023617-  
PETER ALEXANDER BOUVRIE MORALES  
- 2017 Artículo: Superscaling analysis of quasielastic electron scattering with relativistic effective mass, Physical Review D (Particles, Fields, Gravitation and Cosmology), 95, , 076009-1-076009-11  
JOSE ENRIQUE AMARO SORIANO  
ENRIQUE RUIZ ARRIOLA  
- 2017 Artículo: The falsification of Chiral Nuclear Forces, EPJ Web Of Conferences, 137, , 09006-1-09006-6  
JOSE ENRIQUE AMARO SORIANO  
ENRIQUE RUIZ ARRIOLA  
- 2017 Artículo: Relativistic model of 2p-2h meson exchange currents in (anti)neutrino scattering, Journal of Physics G: Nuclear and Particle Physics, 44, 6, 065105-  
JOSE ENRIQUE AMARO SORIANO  
- 2017 Artículo: A physically based model for resistive memories including a detailed temperature and variability description, Microelectronic Engineering, 178, , 26-29  
JUAN B. ROLDAN ARANDA  
- 2017 Artículo: LSSGalPy: Interactive Visualization of the Large-scale Environment Around Galaxies, Publications of the Astronomical Society of the Pacific, 129, 975, 058005-  
SIMON VERLEY  
- 2017 Artículo: Simple unified view of branching process statistics: Random walks in balanced logarithmic potentials, Physical Review E, 96, 3, 032115-



MIGUEL ANGEL MUÑOZ MARTINEZ

- 2017 Artículo: Structure of the optimal path to a fluctuation, *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics*, 95, 3, 032119-

PABLO IGNACIO HURTADO FERNANDEZ

PEDRO LUIS GARRIDO GALERA

- 2017 Artículo: On the (non-)uniqueness of the Levi-Civita solution in the Einstein-Hilbert-Palatini formalism, *Physics letters. B*, 768, , 280-287

PABLO SANCHEZ MORENO

- 2017 Artículo: The biparametric Fisher-Rényi complexity measure and its application to the multidimensional blackbody radiation, *Journal of Statistical Mechanics*, , , -

DAVID PUERTAS CENTENO

JESÚS SÁNCHEZ-DEHESA MORENO-CID

- 2017 Artículo: Heisenberg and Entropic Uncertainty Measures for Large-Dimensional Harmonic Systems, *Entropy (Basel. Online)*, , , -

DAVID PUERTAS CENTENO

JESÚS SÁNCHEZ-DEHESA MORENO-CID

- 2017 Artículo: Cement nanotubes: on chemical gardens and cement, *Structural Chemistry*, 28, 1, 33-37

JULYAN CARTWRIGHT

- 2017 Artículo: Icy hell &ndash; a history of ice and snow &ndash; part 2 , *Weather*, 72, 4, 102-106

JULYAN CARTWRIGHT

- 2017 Artículo: Thermodynamics, Disequilibrium, Evolution: Far-From-Equilibrium Geological and Chemical Considerations for Origin-Of-Life Research , *Origins of Life and Evolution of the Biosphere*, 47, , 39-56

JULYAN CARTWRIGHT

- 2017 Artículo: Rényi entropies and topological quantum numbers in 2D gapped Dirac materials, *Physics letters.*

A, 381, 20, 1753-1756

ELVIRA ROMERA GUTIÉRREZ

- 2017 Artículo: Link between generalized nonidempotency and complexity measures, *Journal of Molecular Modeling*, 23, , 159-

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- 2017 Artículo: Powerful H2 Line Cooling in Stephan  s Quintet. II. Group-wide Gas and Shock Modeling of the Warm H2 and a Comparison with [C II] 157.7   m Emission and Kinematics, *The Astrophysical Journal*, 836, 1, 76-113

UTE LISENFELD

- 2017 Artículo: The frozen nucleon approximation in two-particle two-hole response functions, *Physics letters.*

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JOSE ENRIQUE AMARO SORIANO

- 2017 Artículo: Proton-proton hollowness at the LHC from inverse scattering, *Physical Review. D. Particles and fields*, 95, , 074030-1-074030-10

ENRIQUE RUIZ ARRIOLA

- 2017 Artículo: Coarse-grained short-range correlations, *Physical Review C - Nuclear Physics*, 95, , 054003-1-14

JOSE ENRIQUE AMARO SORIANO

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- 2017 Artículo: Phase transition in the SRG flow of nuclear interactions, *Few-Body Systems (Internet)*, 58, 2, 62-67

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- 2017 Artículo: Two-dimensional multi-component photometric decomposition of CALIFA galaxies, *Astronomy and Astrophysics*, 598, 1, 1-18

ESTRELLA FLORIDO NAVIO

- 2017 Artículo: Limits on the Mass and Abundance of Primordial Black Holes from Quasar Gravitational Microlensing, *Astrophysical Journal Letters*, 836, 2, 18-23

JORGE JIMENEZ VICENTE

- 2017 Artículo en prensa: The Wolf-Rayet star population in the dwarf galaxy NGC 625, *Astronomy and Astrophysics*, , , -

MÓNICA RELA  O PASTOR

- 2017 Artículo: Reply to Comment on `A note on heat reservoirs and the like  , *European Journal Of Physics*, , 048002, -

FRANCISCO DE LOS SANTOS FERN  NDEZ

ANTONIO I. L  PEZ LACOMBA

- 2017 Artículo: Entropic functionals of Laguerre and Gegenbauer polynomials with large parameters, *Journal of Physics A: Mathematical and Theoretical*, 50, , 215206-

JES  S S  NCHEZ-DEHESA MORENO-CID

- 2017 Artículo: Entropic functionals of Laguerre and Gegenbauer polynomials with large parameters, *Journal of Physics A: Mathematical and Theoretical*, 50, , 215206-



JESÚS SÁNCHEZ-DEHESA MORENO-CID

- 2017 Artículo: Competition between excluded-volume and electrostatic interactions for nanogel swelling: effects of the counterion valence and nanogel charge, *PCCP. Physical Chemistry Chemical Physics*, 19, 9, 6838- 6848

ARTURO MONCHO JORDÁ

- 2017 Artículo: Sorption and Spatial Distribution of Protein Globules in Charged Hydrogel Particles, *Langmuir*, 33, , 4567-4577

ARTURO MONCHO JORDÁ

- 2017 Artículo: Conformation change of an isotactic poly (N-isopropylacrylamide) membrane: Molecular dynamics, *Journal of Chemical Physics*, 146, , 194905-1-194905-11

ARTURO MONCHO JORDÁ

- 2017 Artículo: Controlling the s-wave scattering length with nonresonant light: Predictions of an asymptotic model, *Physical Review. A*, 95, , 023405-1-023405-14

MARIA ROSARIO GONZÁLEZ FÉREZ

- 2016 Artículo: A class of orthogonal functions given by a three term recurrence formula, *Mathematics of Computation*, 85, 300, 1837-1859

TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ

- 2016 Artículo: Monotone measures of statistical complexity, *Physics Letters A*, 380, , 377-380

PABLO SANCHEZ MORENO

JESÚS SÁNCHEZ-DEHESA MORENO-CID

- 2016 Artículo: Interplay between Subthreshold Oscillations and Depressing Synapses in Single Neurons, *PLoS One*, 11, 1, e0145830-e0145830

JOAQUIN JAVIER TORRES AGUDO

- 2016 Artículo: No direct coupling between bending of galaxy disc stellar age and light profiles, *Monthly Notices of the Royal Astronomical Society: Letters*, 456, 1, L35-L39

ESTRELLA FLORIDO NAVIO

- 2016 Artículo: Outer-disk reddening and gas-phase metallicities: The CALIFA connection, *ASTRONOMY AND ASTROPHYSICS*, 585, , A47-A75

ESTRELLA FLORIDO NAVIO

- 2016 Artículo: Sobolev orthogonal polynomials on the unit ball via outward normal derivatives, *Journal of Mathematical Analysis and Applications*, 440, , 716-740

TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ

LIDIA FERNÁNDEZ RODRÍGUEZ

- 2016 Artículo en prensa: Matrix Pearson equations satisfied by Koornwinder weights in two variables, *Acta applicandae mathematicae*, , , -

TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ

- 2016 Artículo: Testing the molecular-hydrogen Kennicutt-Schmidt law in the low-density environments of extended ultraviolet disc galaxies, *Monthly Notices Of The Royal Astronomical Society*, 455, 2, 1807-1818

UTE LISENFELD

- 2016 Artículo: A new parameter to characterize the charge transport regime in Ni/HfO<sub>2</sub>/Si-n+-based RRAMs, *Solid-State Electronics*, 118, , 56-60

JUAN B. ROLDAN ARANDA

- 2016 Artículo: A review of CMOS photodiode modeling and the role of the lateral photoresponse, *IEEE Transactions on Electron Devices*, 63, , 16-25

JUAN B. ROLDAN ARANDA

- 2016 Artículo: STRUCTURE OF THE ACCRETION DISK IN THE LENSED QUASAR Q2237+0305 FROM MULTI-EPOCH AND MULTI-WAVELENGTH NARROWBAND PHOTOMETRY, *The Astrophysical Journal letters*, 817, 2, 155-160

JORGE JIMENEZ VICENTE

- 2016 Artículo: Multivariate Orthogonal Polynomials and Modified Moment Functionals, *Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)*, 12, 090, 1-25

TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ

LIDIA FERNÁNDEZ RODRÍGUEZ

- 2016 Artículo: Axial-vector dominance predictions in quasielastic neutrino-nucleus scattering, *Physical Review D*, 93, , 053002-1-053002-10

JOSE ENRIQUE AMARO SORIANO

ENRIQUE RUIZ ARRIOLA

- 2016 Artículo: Uncertainty quantification of effective nuclear interactions, *International Journal of Modern Physics E*, 25, , 1641009-1-1641009-16

JOSE ENRIQUE AMARO SORIANO

ENRIQUE RUIZ ARRIOLA

- 2016 Artículo: Multipartite concurrence for identical fermions, *Physical Review A*, 93, 3, 032335-032335

PETER ALEXANDER BOUVRIE MORALES



ANGEL RICARDO PLASTINO

- 2016 Articulo: The Falsification of Nuclear Forces, EPJ Web of Conferences, 113, , 04021-
- JOSE ENRIQUE AMARO SORIANO
- ENRIQUE RUIZ ARRIOLA
- 2016 Articulo: Formation spectra of charmed meson-nucleus systems using an antiproton beam, Physics letters. B, 754, , 26-32
- LORENZO LUIS SALCEDO MORENO
- 2016 Articulo: inclusive electron scattering within the SuSAv2 meson-exchange current approach, Physical Review. D. Particles and fields, 94, , 013012-1-013012-13
- JOSE ENRIQUE AMARO SORIANO
- 2016 Articulo: Three pion nucleon coupling constants, Modern Physics Letters A, 31, 28, 1630027-15
- JOSE ENRIQUE AMARO SORIANO
- ENRIQUE RUIZ ARRIOLA
- 2016 Articulo: Emission of neutron-proton and proton-proton pairs in neutrino scattering, Physics Letters B, 762, , 124-130
- JOSE ENRIQUE AMARO SORIANO
- 2016 Articulo: Herschel Observations of Major Merger Pairs at z = 0: Dust Mass and Star Formation, Astrophysical Journal, Supplement Series, 222, 2, 16-38
- UTE LISENFELD
- 2016 Articulo: Planck 2015 results. XXVII. The second Planck catalogue of Sunyaev-Zeldovich sources, ASTRONOMY AND ASTROPHYSICS, Astronomy & Astrophysics, 594, id.A27, 38 pp., , 1-38
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Introduction to Focus Issue: Complex Dynamics in Networks, Multilayered Structures and Systems, Chaos An Interdisciplinary Journal of Nonlinear Science, 26, 6, 065101-065101
- JOAQUIN JAVIER TORRES AGUDO
- 2016 Articulo: Emergence of low noise frustrated states in E/I balanced neural networks, Neural networks : the Official Journal of the International Neural Network Society, 84, , 91-101
- JOAQUIN JAVIER TORRES AGUDO
- 2016 Articulo: Planck 2015 results. XXVI. The Second Planck Catalogue of Compact Sources, ASTRONOMY AND ASTROPHYSICS, 594, A26, 1-39
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XXV. Diffuse low-frequency Galactic foregrounds, ASTRONOMY AND ASTROPHYSICS, 594, A25, 1-45
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XXIV. Cosmology from Sunyaev-Zeldovich cluster counts, ASTRONOMY AND ASTROPHYSICS, 594, A24, 1-19
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Molecular gas and star formation in the tidal dwarf galaxy VCC 2062, ASTRONOMY AND ASTROPHYSICS, 590, , 92-107
- UTE LISENFELD
- 2016 Articulo: Planck 2015 results. XXII. A map of the thermal Sunyaev-Zeldovich effect, ASTRONOMY AND ASTROPHYSICS, 594, A22, 1-24
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XX. Constraints on inflation, ASTRONOMY AND ASTROPHYSICS, 594, A20, 1-65
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XIII. Cosmological parameters, ASTRONOMY AND ASTROPHYSICS, 594, A13, 1-63
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XII. Full focal plane simulations, ASTRONOMY AND ASTROPHYSICS, 594, A12, 1-28
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. VII. High Frequency Instrument data processing: Time-ordered information and beams, ASTRONOMY AND ASTROPHYSICS, 594, A7, 1-30
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. II. Low Frequency Instrument data processings, ASTRONOMY AND ASTROPHYSICS, 594, A2, 1-35
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. I. Overview of products and scientific results, ASTRONOMY AND ASTROPHYSICS, 594, A1, 1-38
- EDUARDO BATTANER LOPEZ
- 2016 Articulo: Planck 2015 results. XXVIII. The Planck Catalogue of Galactic cold clumps, ASTRONOMY AND ASTROPHYSICS, 594, A28, 1-28



EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck 2015 results. XXIII. The thermal Sunyaev-Zeldovich effect-cosmic infrared background correlation, ASTRONOMY AND ASTROPHYSICS, 594, A23, 1-17

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck 2015 results. XIX. Constraints on primordial magnetic fields, ASTRONOMY AND ASTROPHYSICS, 594, A19, 1-27

EDUARDO BATTANER LOPEZ

ESTRELLA FLORIDO NAVIO

- 2016 Artículo: Planck 2015 results. IX. Diffuse component separation: CMB maps, ASTRONOMY AND ASTROPHYSICS, 594, A9, 1-42

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck 2015 results. VIII. High Frequency Instrument data processing: Calibration and maps, ASTRONOMY AND ASTROPHYSICS, 594, A8, 1-27

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck 2015 results. III. LFI systematic uncertainties, ASTRONOMY AND ASTROPHYSICS, 594, A3, 1-32

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXVIII. E- and B-modes of dust polarization from the magnetized filamentary structure of the interstellar medium, ASTRONOMY AND ASTROPHYSICS, 586, A141, 1-17

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXVII. Evidence of unbound gas from the kinetic Sunyaev-Zeldovich effect, ASTRONOMY AND ASTROPHYSICS, 586, A140, 1-14

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXVI. Optical identification and redshifts of Planck SZ sources with telescopes at the Canary Islands observatories, ASTRONOMY AND ASTROPHYSICS, 586, A139, 1-15

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXV. Probing the role of the magnetic field in the formation of structure in molecular clouds, ASTRONOMY AND ASTROPHYSICS, 586, A138, 1-29

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXIV. The magnetic field structure in the Rosette Nebula, ASTRONOMY AND ASTROPHYSICS, 586, A137, 1-16

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXIII. Signature of the magnetic field geometry of interstellar filaments in dust polarization maps, ASTRONOMY AND ASTROPHYSICS, 586, A136, 1-16

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXII. The relative orientation between the magnetic field and structures traced by interstellar dust, ASTRONOMY AND ASTROPHYSICS, 586, A135, 1-24

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXXI. Microwave survey of Galactic supernova remnants, ASTRONOMY AND ASTROPHYSICS, 586, A134, 1-21

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Planck intermediate results. XXX. The angular power spectrum of polarized dust emission at intermediate and high Galactic latitude, ASTRONOMY AND ASTROPHYSICS, 586, A133, 1-25

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- 2016 Artículo: Planck intermediate results. XXIX. All-sky dust modelling with Planck, IRAS, and WISE observations, ASTRONOMY AND ASTROPHYSICS, 586, A132, 1-26

EDUARDO BATTANER LOPEZ

- 2016 Artículo: Searching for Faraday rotation in cosmic microwave background polarization, Monthly Notices Of The Royal Astronomical Society, 460, 3, 3089-3099

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EDUARDO BATTANER LOPEZ

- 2016 Artículo: Searching for Faraday rotation in cosmic microwave background polarization, Monthly Notices Of The Royal Astronomical Society, 460, 3, 3089-3099

ESTRELLA FLORIDO NAVIO

- 2016 Artículo: Shape of the oxygen abundance profiles in CALIFA face-on spiral galaxies, ASTRONOMY AND ASTROPHYSICS, 587, A70, 1-21

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- 2016 Artículo: The imprint of satellite accretion on the chemical and dynamical properties of disc galaxies, ASTRONOMY AND ASTROPHYSICS, 586, A112, 1-25

ESTRELLA FLORIDO NAVIO

MARÍA ISABEL PEREZ MARTIN

- 2016 Artículo: Emission of neutron-proton and proton-proton pairs in electron scattering induced by meson-exchange currents, Physical Review C, 94, , 054610/1-054610/4



JOSE ENRIQUE AMARO SORIANO

- 2016 Artículo: Information-theoretic space from simple atomic and molecular systems to biological and pharmacological molecules, *Theoretical Chemistry Accounts*, 135, 253, 1-6

JUAN CARLOS ANGULO IBÁÑEZ

RODOLFO OCTAVIO ESQUIVEL OLEA

JESÚS SÁNCHEZ-DEHESA MORENO-CID

- 2016 Artículo: NGSmethDB 2017: enhanced methylomes and differential methylation, *Nucleic Acids Research*, 45, , D97-D103

PEDRO JUAN CARPENA SANCHEZ

- 2016 Artículo: Gibbs sampling of complex valued distributions, *Physical Review D*, 94, , 074503-1-074503-21

LORENZO LUIS SALCEDO MORENO

- 2016 Artículo: Does the complex Langevin method give unbiased results?, *Physical Review D*, 94, , 114505-1-114505-23

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- 2016 Artículo: Weak additivity principle for current statistics in d dimensions, *Physical Review E (Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics)*, 93, , 040103(R)-

PEDRO LUIS GARRIDO GALERA

- 2016 Artículo: Violation of universality in anomalous Fourier's law, *Scientific Reports*, 6, , 38823-

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PABLO IGNACIO HURTADO FERNANDEZ

- 2016 Artículo: Intrinsic noise and deviations from criticality in Boolean gene-regulatory networks, *Scientific Reports*, 6, 34743, -

MIGUEL ANGEL MUÑOZ MARTINEZ

- 2016 Artículo: Study of the chemical space of selected bacteriostatic sulfonamides from an information-theoretical point of view, *Chemphyschem*, 17, , 4003-4010

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- 2016 Artículo: A new compact model for bipolar RRAMs based on truncated-cone conductive filaments¿a Verilog-A approach, *Semiconductor Science and Technology (Print)*, 31, 11, 115013-

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- 2016 Artículo: Charged-current neutrino-nucleus reactions within the superscaling meson-exchange current approach, *Physical Review D*, 94, , 093004-1-093004-21

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- 2016 Comunicación en congreso: Interaction of electrons and neutrinos with nucleons and nuclei, XXXV International Workshop on Nuclear Theory, 26/06/2016, Rila, BULGARIA, Congreso JOSE ENRIQUE AMARO SORIANO
- 2016 Comunicación en congreso: The role of meson exchange currents in Charged Current (Anti)Neutrino-Nucleus Scattering, XXXV International Workshop on Nuclear Theory, 26/06/2016, Rila, BULGARIA, Congreso JOSE ENRIQUE AMARO SORIANO
- 2016 Poster en Congreso: Nature of the spin-glass phase in dense packings of Ising dipoles with random anisotropy axes, 8th Joint European Magnetic Symposia, 21/08/2016, GLASGOW (REINO UNIDO), Congreso JUAN JOSE ALONSO PEREDA
- 2016 Conferencias impartidas: Toledo y la gestación de la astronomía moderna, Formation and Evolution of galactic outskirts, 14/03/2016, Toledo, Congreso EDUARDO BATTANER LOPEZ
- 2016 Ponencia en Congreso: Wave packet revivals at quantum phase transitions, Statphys 2016, 18/07/2016, Lyon, France, Congreso ELVIRA ROMERA GUTIÉRREZ FRANCISCO DE LOS SANTOS FERNÁNDEZ
- 2016 Poster en Congreso: Saturation and diffusion of helium on graphene: A first-principles study, 2016 E-MRS



- Spring Meeting, 02/05/2016, LILLE (FRANCIA), Congreso  
NICOLÁS ALEJANDRO CORDERO TEJEDOR
- 2016 Poster en Congreso: UNIQUE METHODOLOGY TO DEVELOP INNOVATIVE MATERIALS FOR EXTREME APPLICATIONS USING COMPLEMENTARY CAPABILITIES: MULTI-SCALE MODELING, CRITICAL RAW MATERIALS SUBSTITUTION, ECO-DESING AND NANOSAFETY ASSESSMENT, Industrial Technologies  
2016, 22/06/2016, AMSTERDAM, Congreso  
NICOLÁS ALEJANDRO CORDERO TEJEDOR
- 2016 Sesión plenaria en Congreso: Thermal shifts, fluctuations, and missing states, Excited Hyperons in QCD Thermodynamics at Freeze-Out, 16/11/2016, Newport News, VA (EE.UU.), Congreso  
LORENZO LUIS SALCEDO MORENO  
ENRIQUE RUIZ ARRIOLA
- 2016 Poster en Congreso: Heavy Quark Coupled Channel Dynamics from Thermal Shifts, 12th Conference on Quark Confinement and the Hadron Spectrum, 24/08/2016, Thessaloniki (Grecia), Congreso  
LORENZO LUIS SALCEDO MORENO  
ENRIQUE RUIZ ARRIOLA
- 2016 Conferencias impartidas: HERMANN VON HELMHOLTZ de la conservación de la energía a la física de los sentidos, Conferencias del Instituto Carlos I: fronteras de la física, 22/01/2016. FACULTAD DE CIENCIAS UNIVERSIDAD DE GRANADA, Congreso  
JOSE ENRIQUE AMARO SORIANO
- 2016 Ponencia en Jornada: La Mujer en la Tecnología, Día de la Mujer en la Tecnología, 03/03/2016, Málaga, Jornada  
TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ
- 2016 Poster en Exposición: MIT: Mujeres en la Informática y la Telecomunicación, MIT: Mujeres en la Informática y la Telecomunicación, 03/03/2016, Málaga, Exposición  
TERESA ENCARNACIÓN PÉREZ FERNÁNDEZ
- 2016 Poster en Congreso: Supression of star formation in transitioning galaxies in Hickson Compact, The physics and groups and galaxy properties therein, 12/12/2016, Paris (FRANCIA), Congreso  
UTE LISENFELD
- 2016 Poster en Congreso: Star formation suppression in galaxies in Hickson Compact Groups, The galaxy life-cycle: From activity to quiescence, and back, across cosmic time, 24/10/2016, VENEZIA (ITALIA), Congreso  
UTE LISENFELD
- 2016 Ponencia en Congreso: Star formation suppression in galaxies in Hickson Compact Groups, Mapping the Pathways of Galaxy Transformation Across Time and Space, 01/08/2016, Pasadena, EEUU, Congreso  
UTE LISENFELD
- 2016 Comunicación en congreso: Recent progress in quasar microlensing, From theory to applications: celebrating a century of gravitational lensing, 11/07/2016, Leiden (Países Bajos), Congreso  
JORGE JIMENEZ VICENTE
- 2016 Ponencia en Congreso: High resolution surface dynamics of the Algeciras Bay (Strait of Gibraltar) by Lagrangian particle tracking system, MONGOOS - 5th General Assembly - WORKSHOP ¿Advances in Oceanographic Modelling in the Mediterranean Sea¿, 15/11/2016, Split (Croacia), Congreso  
FRANCISCO JAVIER DE LOS SANTOS RAMOS
- 2016 Comunicación en congreso: Parameter Extraction in Electron Devices by means of Polynomial Pattern Analysis, 16th International Conference on Computational and Mathematical Methods in Science and Engineering, 04/07/2016, Rota, Cádiz, España, Congreso  
JUAN B. ROLDAN ARANDA  
RAFAEL JOSÉ YÁÑEZ GARCÍA
- 2016 Sesión plenaria en Congreso: Ultralong-range polyatomic Rydberg molecules, 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, 23/05/2016, Providence, Rhode Island, EEUU, Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ
- 2016 Sesión plenaria en Congreso: Analyzing alignment and orientation, Controlled Molecules Workshop, 25/02/2016, Goslar, Alemania, Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ
- 2016 Sesión plenaria en Congreso: Rydberg Atoms for Quantum Technologies, Rydberg Atoms for Quantum Technologies, 03/03/2016, Okinawa, Japón, Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ
- 2016 Sesión plenaria en Congreso: Rydberg atoms on surfaces, Correlation and order in Rydberg gases, 30/05/2016, Leiden, Holanda, Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ
- 2016 Conferencias impartidas: Non-adiabatic effects in laser orientation and alignment of molecules, Physical Chemistry Colloquium, 04/05/2016, BASILEA (SUIZA), Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ
- 2016 Conferencias impartidas: Alignment & orientation: Non adiabatics dynamics, Course on Advances in



Atomic Physics, 02/03/2016, Okinawa (Japón), Congreso  
MARIA ROSARIO GONZÁLEZ FÉREZ

**Profesores visitantes**

- Muhammet Uzuntarla  
Faculty of Buletin Ecevit University, Department of Biomedical at Engineering  
Del 20 de enero al 12 de febrero de 2017
- Matteo Martinello  
Universidad de Padua (Italia)  
Del 11 al 22 de diciembre de 2016
- Virginia Domínguez García  
Universidad de Montpellier (Francia)  
Del 5 al 18 de febrero de 2017
- Juan José Alonso Pereda  
Universidad de Málaga  
Del 21 al 26 de agosto de 2016
- Paolo Moretti  
Universidad de Nurenberg (Alemania)  
Del 24 al 27 de julio de 2016
- Avadh Saxena  
Center for Nonlinear Studies. National Laboratory Los Álamos (USA)  
Del 2 al 3 de abril de 2017
- Peter Alexander Brouvrie Morales  
Centro Brasileiro de Pesquisas Físicas  
Del 31 de diciembre de 2016 al 31 de enero de 2017
- Adan Cabello Quintero  
Universidad de Sevilla  
Del 22 al 23 de noviembre de 2016
- Octavio Héctor Castaños Garza  
Universidad Nacional Autónoma de México  
Del 21 de enero al 9 de febrero de 2017
- Alejandro Jenkins Villalobos  
Universidad de Costa Rica  
Del 31 de noviembre al 3 de diciembre de 2016
- Jacobo Ruiz de Elvira Carrascal  
Universidad de Berna (Suiza)  
Del 19 de diciembre al 22 de diciembre de 2016
- Eugenio Megías Fernández  
Universidad del País Vasco  
Del 9 al 13 de enero de 2017
- Pere Masjuan Querart  
Universidad Autónoma de Barcelona  
Del 26 al 27 de abril de 2017
- Wojciech Bogdan Broniowski  
H. Niewodniczanski Institute of Nuclear Physics, Polish Academy of Sciences de Cracovia  
Del 11 al 17 de septiembre de 2016
- Alejandro Cordero Tejedor  
Universidad de Burgos  
Del 12 al 19 de febrero de 2017
- Nagy Agnes Ilona  
University of Borás. Hungría  
Del 23 al 29 de marzo de 2017
- Beatriz Ruiz Granada  
Instituto de Astrofísica de Canarias  
Del 1 al 8 de abril de 2017-06-06
- Alberto Rubiño Martín  
Instituto de Astrofísica de Canarias  
Del 2 al 8 de abril de 2017
- Juan José García Ripoll  
Instituto de Física Fundamental. CSIC  
Del 14 al 16 de mayo de 2017
- Ancor Damas Segovia  
Max Planck Institut für Radioastronomie, de Bonn.



Del 24 de marzo al 4 de abril de 2017

- Rafael Roldán Toro

Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC

7 de marzo de 2017

- Belén Valenzuela Requena

Instituto de Ciencia de los Materiales de Madrid (CSIC)

23-24 de marzo de 2017

- Niurka Rodríguez Quintero

Universidad de Sevilla

Del 24 al 26 de noviembre de 2016

- José Adolfo de Azcárraga Feliu

Universidad de Valencia

Del 24 al 26 de noviembre de 2016

- Juan Antonio Bonachela Fajardo

University of Strathclyde

Del 24 al 27 de noviembre de 2016

- Mª José Ruiz Montero

Universidad de Sevilla

Del 24 al 26 de noviembre de 2016

- José Javier Brey Ábalos

Universidad de Sevilla

Del 24 al 26 de noviembre de 2016

- Alejandro Zarzo Altarejos

Universidad Carlos III

Del 24 al 25 de noviembre de 2016

- Juan José Moreno Balcázar

Universidad de Almería

Del 24 al 26 de noviembre de 2016

- Jorge Hidalgo Aguilera

Universidad de Padua (Italia)

Del 2 al 11 de junio de 2017

#### Otras actividades

- Celebración de las III Jornadas Científicas con motivo del 25 aniversario de la creación del Instituto Carlos I de Física Teórica y Computacional

Lugar de celebración: La Madraza

Fecha: 25 de noviembre de 2016

Actividades:

- Sesión de seminarios de 09:00 a 18:00h
- Inauguración de la exposición 25 aniversario del iC1
- Encuentro de jóvenes investigadores con el Presidente de la RSEF
- Sesión de pósters