



Electromagnetismo y Física de la Materia

Áreas de conocimiento: “Electromagnetismo”, “Física de la Materia Condensada” y “Ciencia de Materiales e IM”

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Página web: <http://ergodic.ugr.es/efm>

Profesorado: CU: 7, PTU: 7, PTEU: 0, PDI Contratado y Otros: 9.

Grupos de Investigación.

FQM381 Nanoestructuras, propiedades cuánticas y aplicaciones tecnológicas

- Responsable: ELVIRA ROMERA GUTIÉRREZ

TIC190 ELECTRODINÁMICA DE FENÓMENOS TRANSITORIOS

- Responsable: ALFONSO SALINAS EXTREMERA

TIC131 ELECTROMAGNETISMO DE GRANADA (GEG)

- Responsable: RAFAEL ANTONIO GOMEZ MARTIN

FQM357 FÍSICA DE SISTEMAS COMPLEJOS

- Responsable: PEDRO LUIS GARRIDO GALERA

FQM165 FÍSICA ESTADÍSTICA Y DE LOS SISTEMAS COMPLEJOS

- Responsable: JOAQUIN JAVIER TORRES AGUDO

Dirección y participación en Proyectos I+D

- 2015 AVALANCHAS EN BIOFÍSICA, GEOFÍSICA, MATERIALES Y PLASMAS, PROGRAMA ESTATAL DE FOMENTO DE LA INVESTIGACIÓN CIENTÍFICA Y TECNOLÓGICA DE EXCELENCIA, 27/11/- 2015 -26/11/2017

Investigador/a: TORRES AGUDO, JOAQUIN JAVIER

Publicaciones en revistas

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

TORRES AGUDO, JOAQUIN JAVIER

- 2016 Artículo: Full 3-D TLM simulations of the Earth-ionosphere cavity: Effect of conductivity on the Schumann resonances, Journal of Geophysical Research, - 2015 JA022083, , 1-15

FORNIELES CALLEJÓN, JESÚS FRANCISCO

PORTÍ DURÁN, JORGE

SALINAS EXTREMERA, ALFONSO

TOLEDO REDONDO, SERGIO

- 2015 Artículo: Rounding of abrupt phase transitions in brain networks, Journal of Statistical Mechanics: Theory and Experiment, - 2015 , , P01003-

MUÑOZ MARTINEZ, MIGUEL ANGEL

VILLA MARTÍN, PAULA

- 2015 Artículo: Stochasticity enhances the gaining of bet-hedging strategies in contact-process-like dynamics, Physical Review E, 91, , 032114-

HIDALGO AGUILERA, JORGE

MUÑOZ MARTINEZ, MIGUEL ANGEL

- 2015 Artículo: Efficient transmission of subthreshold signals in complex networks of spiking neurons, Plos One, 10, 3, e0121156-e0121156

MARRO BORAU, JOAQUÍN

TORRES AGUDO, JOAQUIN JAVIER

- 2015 Artículo: A Nodal Hybrid Continuous-Discontinuous Galerkin Time Domain Method for Maxwell's Curl Equations, IEEE Transactions on Microwave Theory and Techniques, 63, 10, 3081-3093

ALVAREZ, JESUS

DIAZ ANGULO, LUIS MANUEL

FERNANDEZ PANTOJA, MARIO ALBERTO

GOMEZ MARTIN, RAFAEL ANTONIO

GONZALEZ GARCIA, SALVADOR

- 2015 Artículo: Efficient Antenna Modeling by DGTD: Leap-frog discontinuous Galerkin timedomain method, Antennas and Propagation Magazine, IEEE, 57, 3, 95-106

ALVAREZ, JESUS

DIAZ ANGULO, LUIS MANUEL

GOMEZ MARTIN, RAFAEL ANTONIO

GONZALEZ GARCIA, SALVADOR

MORENO DE JONG VAN COEVORDEN, CARLOS

RUBIO BRETONES, AMELIA CONSUELO

- 2015 Artículo: Eluding catastrophic shifts, Proceedings of the National Academy of Science USA, 112, 15, E1828-E1836



BONACHELA FAJARDO, JUAN ANTONIO

MUÑOZ MARTINEZ, MIGUEL ANGEL

VILLA MARTÍN, PAULA

- 2015 Artículo: Termite mounds can increase the robustness of dryland ecosystems to climatic change, *Science*, 347, , 651-655

BONACHELA FAJARDO, JUAN ANTONIO

- 2015 Artículo: Identifying topological-band insulator transitions in silicene and other 2D gapped Dirac materials by means of Renyi-Wehrl entropy, *Europhysics Letters (Print)*, 109, , 40003-1-40003-5

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: Uncertainty relations and topological-band insulator transitions in 2D gapped Dirac materials, *Journal of Physics: Condensed Matter*, 27, , 175003-1-175003-5

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: Inverse participation ratio and localization in topological insulator phase transitions, *Journal of Statistical Mechanics: Theory and Experiment*, 6, , P06029-1-P06029-10

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: Band inversion at critical magnetic fields in a silicene quantum dot, *Europhysics Letters*, 111, 3, 37006-1-37006-4

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: A direct BEM to model the temperature of gradient coils, *Engineering Analysis With Boundary Elements*, 59, , 159-165

COBOS SANCHEZ, CLEMENTE

- 2015 Artículo: A novel brain partition highlights the modular skeleton shared by structure and function, *SCIENTIFIC REPORTS (NATURE)*, 5, , 10532-10542

MUÑOZ MARTINEZ, MIGUEL ANGEL

- 2015 Artículo: Coexistence in neutral theories: interplay of criticality and mild local preferences, *JOURNAL OF STATISTICAL MECHANICS*, 3, , P01003-

MUÑOZ MARTINEZ, MIGUEL ANGEL

- 2015 Artículo: Insect Swarms Go Critical, *PHYSICS*, 7, , 120-

MUÑOZ MARTINEZ, MIGUEL ANGEL

- 2015 Artículo: Ranking species in mutualistic networks, *Scientific Reports*, 5, , 10.1038-

MUÑOZ MARTINEZ, MIGUEL ANGEL

- 2015 Artículo: Brain performance versus phase transitions, *SCIENTIFIC REPORTS*, 5, 12216, -

MARRO BORAU, JOAQUÍN

TORRES AGUDO, JOAQUIN JAVIER

- 2015 Artículo: Time scales at quantum phase transitions in the Lipkin-Meshkov-Glick model, *Physical Review A*, 91, , 043409-1- 043409-8

ROMERA GUTIÉRREZ, ELVIRA

SANTOS FERNÁNDEZ, FRANCISCO DE LOS

- 2015 Artículo: Understanding Nanopore Window Distortions in the Reversible Molecular Valve Zeolite RHO, *Chemistry of Materials*, 27, 16, 5657-5667

DOMÍNGUEZ GARCÍA, VIRGINIA

- 2015 Artículo: A new explicit and analytical model of square Gate-All-Around MOSFETs with wounded corners, *Solid-State Electronics*, 111, , 180-187

MORENO PÉREZ, ENRIQUE

- 2015 Artículo: tlm nodes: a new look at an old problem, *IEEE Transactions on Microwave Theory and Techniques*, 63, 8, 2449-2458

FORNIELES CALLEJÓN, JESÚS FRANCISCO

PORTÍ DURÁN, JORGE

SALINAS EXTREMERA, ALFONSO

TOLEDO REDONDO, SERGIO

- 2015 Artículo: Relative Rényi entropy and fidelity susceptibility, *Europhysics Letters (Online)*, 109, , 6002-

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: Identifying the order of a quantum phase transition by means of Wehrl entropy in phase space, *Physical Review E (Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics)*, 92, , 052106-

ROMERA GUTIÉRREZ, ELVIRA

- 2015 Artículo: Time-domain numerical modeling of THz receivers based on photoconductive antennas, *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA-B*, 32, 10, 2034-2041

FERNANDEZ PANTOJA, MARIO ALBERTO

Capítulos de libros (con ISBN)

- 2016 Título Capítulo: Structure, Function, and Development of Large-Scale Complex Neural Networks, Título Libro: Big data of complex networks: CRC Press, , - 2016 ,

TORRES AGUDO, JOAQUIN JAVIER



Contribuciones en congresos

- 2015 Sesión plenaria en Congreso: NETSCI - 2015 , NETSCI - 2015 , 01/06/- 2015 , , Congreso MUÑOZ MARTINEZ, MIGUEL ANGEL
- 2015 Poster en Congreso: Spontaneous Symmetry Breaking in Fluctuations of High-Dimensional Driven Diffusive Systems, 13th Granada Seminar on Computational and Statistical Physics, 15/06/- 2015 , La Herradura, Granada (Spain), Congreso TIZÓN ESCAMILLA, NICOLÁS
- 2015 Poster en Congreso: Spontaneous Symmetry Breaking in Fluctuations of High-Dimensional Driven Diffusive Systems, FisEs'15: XX Congreso de Física Estadística, 05/10/- 2015 , Badajoz, España, Congreso TIZÓN ESCAMILLA, NICOLÁS
- 2015 Conferencia Congreso no publicada: Trophic Coherence and Foodweb Stability, Granada Seminar - 2015 : Physics Meets the Social Sciences: Emergent cooperative phenomena, from bacterial to human group behaviour, 15/06/- 2015 , La Herradura, Granada, Congreso DOMÍNGUEZ GARCÍA, VIRGINIA
- 2015 Conferencia Congreso no publicada: MusRank, Ranking Species in Mutualistic Networks, Net-Works - 2015 , 16/09/- 2015 , Granada, España, Congreso DOMÍNGUEZ GARCÍA, VIRGINIA
- 2015 Conferencia Congreso no publicada: The Role of Trophic Coherence in Foodweb stability, FisEs - 2015 , 05/10/- 2015 , Badajoz, España, Congreso DOMÍNGUEZ GARCÍA, VIRGINIA
- 2015 Conferencias impartidas: Recent Developments for Discontinuous Galerkin Time Domain Methods in Computational Electrodynamics, Encuentro IBérico Electromagnetismo Computacional X, 06/05/- 2015 , - Baeza (Jaén), España, Congreso DIAZ ANGULO, LUIS MANUEL
- 2015 Comunicación en Seminario: Is it possible to elude catastrophic shifts?, 25 Granada Seminar. Physics Meets the Social Sciences: Emergent cooperative phenomena, from bacterial to human group behaviour., 15/06/- 2015 , La Herradura, Granada, Seminario VILLA MARTÍN, PAULA