

DEPARTAMENTO DE
MATEMATICAS

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Áreas de conocimiento:

- ANALISIS MATEMATICO
- MATEMATICA APLICADA

ÁREA DE CONOCIMIENTO: ANALISIS MATEMATICO

Publicaciones y actividades de difusión de resultados

Artículos en revistas extranjeras

- AGUIRRE, J.; GINE, J.; PERALTA-SALAS, D.
Integrability of magnetic fields created by current distributions, *Nonlinearity*, Vol. 21, Núm. 1, 2008, pp. 51-69, REINO UNIDO.
- ENCISO, A.; PERALTA-SALAS, D.
Morse-type inequalities for dynamical systems and the Witten Laplacian, *Journal of Differential Equations*, Vol. 244, Núm. 11, 2008, pp. 2804-2819, HOLANDA.
- FERREIRA, R.; PABLO, A. D. ; PEREZ-LLANOS, M.; ROSSI, J.D.
Incomplete quenching in a system of heat equations coupled at the boundary, *Journal of Mathematical Analysis and Applications*, Vol. 346 (1), 2008, pp. 145-154, ESTADOS UNIDOS DE AMERICA.
- PERALTA-SALAS, D.
Period function and normalizers of vector fields in R^n with $n-1$ first integrals, *Journal of Differential Equations*, Vol. 244, Núm. 6, 2008, pp. 1287-1303, HOLANDA.

Ponencias y Comunicaciones a congresos

- PABLO, A. D. ; PEREZ-LLANOS, M.; ROSSI, J.D.
Quenching for systems: Numerical approximations and possible analytical continuation , Workshop on Partial Differential Equations, *BUCAREST*, RUMANIA, 2008.
- PERALTA-SALAS, D.
Morse theory for vector fields on closed manifolds and the Witten Laplacian, XVII International Fall Workshop on Geometry and Physics, *CASTRO URDIALES*, ESPAÑA, 2008.
- PERALTA-SALAS, D.
Completely integrable embeddings in open manifolds, VIII International Colloquium on Differential Geometry, *SANTIAGO DE COMPOSTELA*, ESPAÑA, 2008.
- PERALTA-SALAS, D.
Limit cycles, polycycles and the inverse integrating factor, Workshop on Periodic Orbits of Differential Equations, *TOSSA DE MAR*, ESPAÑA, 2008.

Actividades de formación y movilidad de personal investigador

Estancias en otros centros

- EDUARDO COLORADO HERAS
Título: Estudio del comportamiento asintótico del primer autovalor para problemas elípticos
Centro Externo: Universidad de la Laguna
País: ESPAÑA
Duración: 29/06/2008 a 12/07/2008.

ÁREA DE CONOCIMIENTO: MATEMATICA APLICADA

Actividades de investigación

Tesis Doctorales

- Eutopías de información, incertidumbre y entrelazamiento en mecánica cuántica.
Autores: VICENTE, J.I.D.
Director: SANCHEZ, J.
Año: 2008

Publicaciones y actividades de difusión de resultados

Artículos en revistas nacionales

- ARA, P.; LLEDÓ, F.; PERERA, F.
Álgebras de operadores: un campo de investigación interdisciplinar, *Gaceta de la Real Sociedad Matemática Española*, Vol. 11, 2008, pp. 641-646, ESPAÑA.

Artículos en revistas extranjeras

- ABREU, L.D.; MARCELLAN, F. ; YAKUBOVICH, S.B.
Hardy-type theorem for orthogonal functions with respect to their zeros. The Jacobi weight case , *Journal of Mathematical Analysis and Applications*, Vol. 341, Núm. 2, 2008, pp. 803-812, ESTADOS UNIDOS DE AMERICA.
- BERRIOCHOA, E.; CACHAFEIRO, A.; GARCIA-AMOR, J.M.; MARCELLAN, F.
New quadrature rules for Bernstein measures on the interval $(-1,1)$, *Electronic Transactions on Numerical Analysis*, Vol. 30, 2008, pp. 278-290, ESTADOS UNIDOS DE AMERICA.
- BOROBIA VIZMANOS, A.; MORO, J.; SOTO, R.L.
A unified view on compensation criteria in the real nonnegative inverse eigenvalue problem, *Linear Algebra and its Applications*, Vol. 428, Núm. 11 DIC, 2008, pp. 2574-2584, ESTADOS UNIDOS DE AMERICA.
- BRANQUINHO, A.; MORENO, A.F.; MARCELLAN, F. ; REBOCHO, M.N.
Coherent pairs of linear functionals on the unit circle , *Journal of Approximation Theory*, Vol. 153, Núm. 1, 2008, pp. 122-137, ESTADOS UNIDOS DE AMERICA.
- CAPITAN, J. A. ; MARTINEZ-RATON, Y.; CUESTA, J. A.
Phase behavior of parallel hard cylinders, *Journal of Chemical Physics*, Vol. 128, Núm. 19, 2008, pp. 194901-194908, ESTADOS UNIDOS DE AMERICA.
- COAKLEY, E.S.; DOPICO, F. M.; JOHNSON, C.R.

Matrices with orthogonal groups admitting only determinant one, *Linear Algebra and its Applications*, Vol. 428, Núm. 4, 2008, pp. 796-813, ESTADOS UNIDOS DE AMERICA.

- CUESTA, J. A. ; JIMENEZ, R.J.; LUGO, H.C.; SANCHEZ, A.
The shared reward dilemma, *Journal of Theoretical Biology*, Vol. 251, Núm. 2, 2008, pp. 253-263, HOLANDA.
- de TERAN, F. ; DOPICO, F. M.
A Note On Generic Kronecker Orbits Of Matrix Pencils With Fixed Rank, *SIAM Journal on Matrix Analysis and Applications*, Vol. 30, Núm. 2, 2008, pp. 491-496, ESTADOS UNIDOS DE AMERICA.
- de TERAN, F. ; DOPICO, F. M.
Sharp Lower Bounds For The Dimension Of Linearizations Of Matrix Polynomials, *Electronic Journal of Linear Algebra*, Vol. 17, 2008, pp. 518-531.
- de TERAN, F. ; DOPICO, F. M.; MORO, J.
First order spectral perturbation theory of square singular matrix pencils, *Linear Algebra and its Applications*, Vol. 429, Núm. 02 MARZO, 2008, pp. 548-576, ESTADOS UNIDOS DE AMERICA.
- de TERAN, F. ; DOPICO, F. M.; MORO, J.
Low Rank Perturbation Of Weierstrass Structure, *SIAM Journal on Matrix Analysis and Applications*, Vol. 30, Núm. 2, 2008, pp. 538-547, ESTADOS UNIDOS DE AMERICA.
- DOPICO, F. M.; KOEV, P.
Bidiagonal decompositions of oscillating systems of vectors, *Linear Algebra and its Applications*, Vol. 428, Núm. 11 DIC, 2008, pp. 2536-2548, ESTADOS UNIDOS DE AMERICA.
- EVERITT, W.N.; GARCIA, A.G.; HERNANDEZ, M.A.
On Lagrange-type interpolation series and analytic Kramer kernels, *Results in Mathematics*, Vol. 51, Núm. 3 ABRIL, 2008, pp. 215-228, SUIZA.
- FERREIRA, R.; PABLO, A. D. ; PEREZ-LLANOS, M.; ROSSI, J.D.
Incomplete quenching in a system of heat equations coupled at the boundary, *Journal of Mathematical Analysis and Applications*, Vol. 346 (1), 2008, pp. 145-154, ESTADOS UNIDOS DE AMERICA.
- GARCIA, A.G.; HERNANDEZ, M.A.; PEREZ, G.
Generalized sampling in shift-invariant spaces with multiple stable generators, *Journal of Mathematical Analysis and Applications*, Vol. 337, Núm. 1, 2008, pp. 67-84, ESTADOS UNIDOS DE AMERICA.
- GARCIA, A.G.; KIM, J.M.; KWON, K.H.; PEREZ VILLALON, G.
Aliasing error of sampling series in wavelet subspaces, *Numerical functional analysis and optimization*, Vol. 29, Núm. 1FEB, 2008, pp. 126-144, REINO UNIDO.
- GARCIA, A.G.; PEREZ VILLALON, G.
Approximation from shift-invariant spaces by generalized sampling formulas, *Applied and Computational Harmonic Analysis*, Vol. 24, Núm. 1, 2008, pp. 58-69, ESTADOS UNIDOS DE AMERICA.
- GARCIA, A.G.; PORTAL, A.
A general sampling theory in the functional Hilbert space induced by a Hilbert space valued kernel, *Functional analysis and its applications*, Vol. 3 (3), 2008, pp. 299-313, RUSIA.
- GARZA, L.E.; HERNANDEZ, J.; MARCELLAN, F.
Spectral transformations of measures supported on the unit circle and the Szego transformation, *Numerical Algorithms*, Vol. 49, Núm. 01-ABR, 2008, pp. 169-185, HOLANDA.

- GARZA, L.E.; HERNANDEZ, J.; MARCELLAN, F.
Orthogonal polynomials and measures on the unit circles, *Journal of Computational and Applied Mathematics*, Vol. 219, 2008, pp. 441-456, HOLANDA.
- GONZALEZ, J.; GARCIA NUSTES, M.; SANCHEZ, A.; MCCLINTOCK, P.
Hawking-like emission in kink-soliton escape from a potential well, *New journal of physics*, Vol. 10, 2008, pp. 113015-113015, REINO UNIDO.
- HERNANDEZ, J.; MARCELLAN, F.
Geronimus spectral transforms and measures on the complex plane, *Journal of Computational and Applied Mathematics*, Vol. 219, 2008, pp. 441-456, HOLANDA.
- JIMENEZ, R.J.; LUGO, H.C.; CUESTA, J. A. ; SANCHEZ, A.
Emergence and resilience of cooperation in the spatial prisoner's dilemma via a reward mechanism, *Journal of Theoretical Biology*, Vol. 250, Núm. 3, 2008, pp. 475-483, HOLANDA.
- LILLO, F.; MORO, E.; VAGLICA, G.; MANTEGNA, R.N.
Specialization and herding behavior of trading firms in a financial market, *New journal of physics*, Vol. 10, 2008, REINO UNIDO.
- LILLO, F.; MORO, E.; VAGLICA, G.; MANTEGNA, R.N.
Scaling laws of strategic behavior and size heterogeneity in agent dynamics, *Physical review E*, Vol. 77, Núm. 3, 2008, ESTADOS UNIDOS DE AMERICA.
- LLEDÓ, F.; POST, O.
Eigenvalue bracketing for discrete and metric graphs, *Journal of Mathematical Analysis and Applications*, Vol. 348, Núm. 2, 2008, pp. 806-833, ESTADOS UNIDOS DE AMERICA.
- LLEDÓ, F.; POST, O.
Existence of spectral gaps, covering manifolds and residually finite groups, *Reviews in Mathematical Physics*, Vol. 20, Núm. 2, 2008, pp. 199-231, SINGAPUR.
- LOPEZ, A.; LOPEZ-LAGOMASINO, G.
Ratio asymptotic of Hermite-Pade orthogonal polynomials for Nikishin systems. II, *Advances in mathematics*, Vol. 218, Núm. 4, 2008, pp. 1081-1106, ESTADOS UNIDOS DE AMERICA.
- LOPEZ-LAGOMASINO, G.; MARTINEZ FINKELSHTEIN, A.; PEREZ IZQUIERDO, I.; PIJEIRA, H.E.
Strong asymptotics for Sobolev orthogonal polynomials in the complex plane, *Journal of Mathematical Analysis and Applications*, Vol. 340, Núm. 1, 2008, pp. 521-535, ESTADOS UNIDOS DE AMERICA.
- LOPEZ-LAGOMASINO, G.; REICHEL, L.; WUNDERLICH, L.
Matrices, moments, and rational quadrature, *Linear Algebra and its Applications*, Vol. 429, Núm. 10, 2008, pp. 2540-2554, ESTADOS UNIDOS DE AMERICA.
- LOZANO, S.; SANCHEZ, A.; ARENAS, A.
Community connectivity and heterogeneity: clues and insights on cooperation on social networks, *Journal of Economic Interaction and Coordination*, Vol. 3, 2008, pp. 183-199, ALEMANIA.
- MARCELLAN, F. ; SFAXI, R.
Inverse finite-type relations between sequences of polynomials, *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales*, Vol. 32 (123), 2008, pp. 245-255, COLOMBIA.
- MARTINEZ-RATON, Y.; CAPITAN, J. A. ; CUESTA, J. A.
Fundamental-measure density functional for mixtures of parallel hard cylinders, *Physical review E*, Vol. 77, Núm. 5, 2008, pp. 51205-51209, ESTADOS UNIDOS DE AMERICA.

- MARTINEZ-RATON, Y.; VARGA, S.; VELASCO, E.
Biaxial nematic and smectic phases of parallel particles with different cross sections, *Physical review E*, Vol. 78, Núm. 3, 2008, ESTADOS UNIDOS DE AMERICA.
- MUNOZ GARCIA, J.; CUERNO, R. ; CASTRO, M.
Coupling of morphology to surface transport in ion-beam irradiated surfaces: Oblique incidence, *Physical review B*, Vol. 78, Núm. 20, 2008, ESTADOS UNIDOS DE AMERICA.
- NICOLI, M.; CASTRO, M.; CUERNO, R.
Unified moving-boundary model with fluctuations for unstable diffusive growth, *Physical review E*, Vol. 78, Núm. 2, 2008, ESTADOS UNIDOS DE AMERICA.
- PARRY, A.O.; RASCON, C. ; BERNARDINO, N.; ROMERO-ENRIQUE, J.M.
The critical wetting saga: how to draw the correct conclusion, *Journal of physics: condensed matter*, Vol. 20, 2008, REINO UNIDO.
- PARRY, A.O.; RASCON, C. ; ROMERO ENRIQUE, J.M.
3D short-range wetting and nonlocality , *Physical review letters*, Vol. 100, Núm. 13, 2008, ESTADOS UNIDOS DE AMERICA.
- PARRY, A.O.; ROMERO ENRIQUE, J.; BERNARDINO, N.; RASCON, C.
The influence of non-locality on fluctuation effects for 3D short-ranged wetting, *Journal of physics: condensed matter*, Vol. 20, Núm. 50, 2008, REINO UNIDO.
- PEREZ-LLANOS, M.; ROSSI, J.D.
Non trivial compact blow-up sets of smaller dimension, *Proceedings of the american mathematical society*, Vol. 136 (2), 2008, pp. 593-596, ESTADOS UNIDOS DE AMERICA.
- RODRIGUEZ, J. M.
A simple characterization of weighted Sobolev spaces with bounded multiplication operator , *Journal of Approximation Theory*, Vol. 153, Núm. 1, 2008, pp. 53-72, ESTADOS UNIDOS DE AMERICA.
- RODRIGUEZ, J. M.; SIGARRETA, J.M.
Sobolev Spaces with Respect to Measures in Curves and Zeros of Sobolev Orthogonal Polynomials, *Acta applicandae mathematicae*, Vol. 104, Núm. 3, 2008, pp. 325-353, FRANCIA.
- VELASCO, E.; MARTINEZ-RATON, Y.
Non-uniform liquid-crystalline phases of parallel hard rod-shaped particles: From ellipsoids to cylinders, *Journal of Chemical Physics*, Vol. 129, 2008, pp. 1-9, ESTADOS UNIDOS DE AMERICA.
- VICENTE, J.I.D.
Further results on entanglement detection and quantification from the correlation matrix criterion, *Journal of Physics A-Mathematical and Theoretical*, Vol. 41, Núm. 6, 2008, REINO UNIDO.
- VICENTE, J.I.D.; SANCHEZ, J.
Improved bounds on entropic uncertainty relations, *Physical review A*, Vol. 77, Núm. 4, 2008, ALEMANIA.

Colaboraciones en obras colectivas

- LOPEZ-LAGOMASINO, G.
Constructive Approximation Theory, en: Coimbra Lecture Notes on Orthogonal Polynomials, Nova Science Publishers, Inc., New York Edited by Frank Columbus., ESTADOS UNIDOS DE AMERICA, 2008.
- MARCELLAN, F. ; BARRIOS, D.; BELLO, M.; DE LA CALLE, B.; FIDALGO, U.; PIJEIRA, H.E.
Hermité-Padé Approximation, en: Guillermo López Lagomasino: Mathematical life and Works , 2008.
- TARAZONA, P.; CUESTA, J. A. ; MARTINEZ-RATON, Y.
Density functional theories of hard particle systems, en: Theory and Simulation of Hard-Sphere Fluids and Related Systems Lecture Notes in Physics, SPRINGER , pp. 247-341, 2008.

Ponencias y Comunicaciones a congresos

- BOROBIA, A.; MORO, J.; SOTO, R.
The compensation game and the real nonnegative inverse eigenvalue problem , Kolloquium ModNumDiff del grupo de investigación Numerische Mathematik, *BERLÍN*, ALEMANIA, 2008.
- BOROBIA, A.; SOTO, R.; MORO, J.
The compensation game for the real nonnegative inverse eigenvalue problem , Womart'08: Workshop on nonnegative matrices and related topics, *SAN PEDRO DE ATACAMA*, CHILE, 2008.
- BRANDLE, C.
Complete blow-up and avalanche formation for a parabolic system with non-simultaneous blow-up, Third Euro-Japanese Workshop on blow-up, *Sendai*, JAPON, 2008.
- BRANQUINHO, A.; FIDALGO, U.; FOULQUIE, A.
Rate of convergence on multiple orthogonal polynomials of mixed type for two Nikishin systems of measure, International Workshop on Orthogonal Polynomials and Approximation Theory, *LEGANES*, ESPAÑA, 2008.
- BRANQUINHO, A.; FOULQUIE, A.; FIDALGO, U.
Riemann Hilbert Problem associated to Angelesco systems, IX International Conference in Approximation and Optimization , *SAN ANDRÉS*, COLOMBIA, 2008.
- CAPITAN, J. A. ; CUESTA, J. A.
Dinámica evolutiva de ecosistemas, XV Congreso de Física Estadística FisEs08, *SALAMANCA*, ESPAÑA, 2008.
- CAPITAN, J. A. ; CUESTA, J. A.
An exactly solvable model for theoretical ecosystem assembly , British Ecological Society Annual Meeting, *LONDRES*, REINO UNIDO, 2008.
- CAPITAN, J. A. ; MARTINEZ-RATON, Y.; CUESTA, J. A.
Funcional de medidas fundamentales para mezclas de cilindros duros paralelos , XV Congreso de Física Estadística FisEs08, *SALAMANCA*, ESPAÑA, 2008.
- CUERNO, R.
Universal non-equilibrium phenomena at submicrometric surfaces and interfaces , SigmaPhi 2008, International Conference in Statistical Physics, *KOLYMPARI (CRETA)*, GRECIA, 2008.

- CUERNO, R.
Continuum models of self-organized nanostructuring by low energy ion-beam erosion , Workshop Complex Nanostructures, *DRESDE*, ALEMANIA, 2008.
- CUERNO, R.
Universal non-equilibrium phenomena at submicrometric surfaces and interfaces , 11e Rencontre du Non Linéaire, Mini-colloque "Auto-Organisation des nanostructures", *PARÍS*, FRANCIA, 2008.
- CUERNO, R.
Nanopattern formation by ion-beam sputtering , Nanosteps 2008 Summer School and Workshop, *CARGESE*, FRANCIA, 2008.
- CUERNO, R.
Other instances of universal non-equilibrium phenomena at submicrometric surfaces and interfaces , Nanosteps 2008 Summer School and Workshop, *CARGESE*, FRANCIA, 2008.
- CUERNO, R.
Submicrometric surfaces and interfaces out of equilibrium , Meeting of the Korean Physical Society, *GWANGJU*, COREA DEL SUR, 2008.
- CUERNO, R. ; MUÑOZ-GARCIA, J.; CASTRO, M.; GAGO, R.; VÁZQUEZ, L.
Interplay between Morphology and Surface Transport in Nanopatterns Produced by Ion-Beam Sputtering; en: Materials Research Society Symposium Proceedings, 2008.
- CUESTA, J. A.
Statistical mechanics of ecosystems, Conferencia en el Instituto de Física de Sistemas Complejos, IFISC, *PALMA DE MALLORCA*, ESPAÑA, 2008.
- CUESTA, J. A.
Teoría de juegos evolutiva, Conferencia Facultad de Matemáticas, Universidad de Sevilla, *SEVILLA*, ESPAÑA, 2008.
- CUESTA, J. A.
Statistical mechanics of ecosystems, Conferencia en el Centro de Astrobiología, INTA, *MADRID*, ESPAÑA, 2008.
- CUESTA, J. A.
Teoría de juegos evolutiva, Curso en Bayes Forecast, *MADRID*, ESPAÑA, 2008.
- de TERAN, F. ; DOPICO, F. M.; MACKEY, D.S.
Linearizations of Singular Matrix Polynomials and the Recovery of Minimal Indices, Encuentro de Álgebra Lineal, Análisis Matricial y Aplicaciones, ALAMA2008, *VITORIA-GASTEIZ*, ESPAÑA, 2008.
- de TERAN, F. ; DOPICO, F. M.; MORO, J.
First order perturbation expansions for eigenvalues of singular matrix pencils , Workshop on Nonnegative Matrices and related topics, *SAN PEDRO DE ATACAMA*, CHILE, 2008.
- DOPICO, F. M.
Doubly structured sets of symplectic matrices , Conference on Structured Linear Algebra Problems: Analysis, Algorithms and Applications, *CORTONA*, ITALIA, 2008.
- DOPICO, F. M.
Implicit Jacobi algorithms for the symmetric eigenproblem , 15th International Linear Algebra Society Conference, *CANCÚN*, MÉXICO, 2008.

- DOPICO, F. M.; KOEV, P.; MOLERA, J. M.
An orthogonal and symmetric high relative accuracy algorithm for the symmetric eigenproblem ,
Householder Symposium XVII, *ZEUTHEN*, ALEMANIA, 2008.
- DOPICO, F. M.; KOEV, P.; MOLERA, J. M.
Implicit standard Jacobi gives high relative accuracy on rank revealing decompositions , VII
International Workshop on Accurate Solution of Eigenvalue Problems, *DUBROVNIK*, CROACIA,
2008.
- FIDALGO, U.; LOPEZ-LAGOMASINO, G.
Mixed type multiple ortogonal polynomials, IX Encuentro Internacional de Aproximación, *JAEN*,
ESPAÑA, 2008.
- FIDALGO, U.; LOPEZ-LAGOMASINO, G.
Mixed type orthogonal polynomial for two Nikishin systems, International Workshop on Orthogonal
Polynomials and Approximation Theory, ESPAÑA, 2008.
- FIDALGO, U.; LOPEZ-LAGOMASINO, G.
Logarithmic asymptotic of mixed type multiple ortogonal polynomials of two Nikishin systems ,
Workshop with occasion of the 50th anniversary of Professor W. Van Assche, *LEUVEN*, BÉLGICA,
2008.
- FILO, J.; PEREZ-LLANOS, M.
Conjuntos de explosión para una ecuación doblemente no lineal, Primer Congreso Internacional de
Matemáticas en Ingeniería y Arquitectura, *MADRID*, ESPAÑA, 2007.
- IRIBARREN, J.L.; MORO, E.
*Influencia del comportamiento humano en la transmisión de la información: Marketing viral y redes
sociales*, FisEs 2008, *SALAMANCA*, ESPAÑA, 2008.
- IRIBARREN, J.L.; MORO, E.
Impact of human behaviour on information spreading: Viral marketing and social networks, Net-
Works 2008, *PAMPLONA*, ESPAÑA, 2008.
- JIMÉNEZ, R.; CUESTA, J. A.
Stability of N-players evolutionary games and the distribution of visits of Markov chains , 2008
International Workshop on Applied Probability, *PARÍS*, FRANCIA, 2008.
- KRESSNER, D.; PELAEZ, M.J.; MORO, J.
Structured Hölder condition numbers for multiple eigenvalues , Workshop on Structured Numerical
Linear Algebra Problems: Analysis, Algorithms and Applications, *CORTONA*, ITALIA, 2008.
- LLEDÓ, F.
Von Neumann algebras: classification and examples, Summer School Lluís Santaló: Aspects of
operator algebras and applications, *SANTANDER*, ESPAÑA, 2008.
- LLEDÓ, F.
Informal overview on C-algebras and von Neumann algebras* , Summer School Lluís Santaló:
Aspects of operator algebras and applications, *SANTANDER*, ESPAÑA, 2008.
- LLEDÓ, F.
Modular Theory: Definition and main results, Summer School Lluís Santaló: Aspects of operator
algebras and applications, *SANTANDER*, ESPAÑA, 2008.

- LLEDÓ, F.
Examples of modular objects, Summer School Lluis Santaló: Aspects of operator algebras and applications, *SANTANDER*, ESPAÑA, 2008.
- LLEDÓ, F.
Operator algebras as a natural language for quantum theory, Workshop: Mathematical and theoretical tools for quantum information, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
Haag-Kastler axioms and first consequences, Workshop Mathematical and Theoretical tools for quantum information, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
Vacuum representation and Reeh-Schlieder theorem, Workshop Mathematical and theoretical tools for quantum information, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
A quantum theory of constraints, XII Jornada SIMUMAT Mathematical Structures of Quantum Mechanics, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
Spectral gaps for periodic discrete and metric graphs, Colloquium del Dpto. de Análisis Matemático, Universidad Complutense de Madrid, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
An invitation to modular theory and von Neumann algebras, Seminario de Análisis, Universidad Autónoma de Madrid, *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
Generating spectral gaps by geometry. Riemannian coverings with residually finite groups, Seminario de Geometría compleja , *MADRID*, ESPAÑA, 2008.
- LLEDÓ, F.
Eigenvalue bracketing for discrete and metric graphs , Colloquium Mathematical Institute, *MAINZ*, ALEMANIA, 2008.
- LOPEZ-LAGOMASINO, G.; MÍNGUEZ, J.
Fourier-Padé approximation of Nikishin systems , Congress on Approximation and Optimization in the Caribbean, *SAN ANDRÉS*, COLOMBIA, 2008.
- LOZANO, S.; ARENAS, A.; SANCHEZ, A.
Community connectivity and heterogeneity: clues and insights on cooperation on social networks , International Conference on Economic Science with Heterogeneous Interacting Agents 2008, *VARSOVIA*, POLONIA, 2008.
- MACKAY, D.S.; de TERAN, F. ; DOPICO, F. M.
Linearizations of Singular Matrix Polynomials and the Recovery of Minimal Indices , 4th Berlin-Manchester Workshop on Nonlinear Eigenvalue Problems, *BERLIN*, ALEMANIA, 2008.
- MACKAY, D.S.; de TERAN, F. ; DOPICO, F. M.
Linearizations of Singular Matrix Polynomials and the Recovery of Minimal Indices , Householder Symposium XVII, *ZEUTHEN*, ALEMANIA, 2008.
- MARCELLAN, F.
Orthogonal polynomials in Sobolev spaces , Workshop with occasion of the 50th anniversary of Professor W. Van Assche, *LEUVEN*, BÉLGICA, 2008.

- MARCELLAN, F.
Numerical quadratures on the unit circle , Conference with occasion of the 60th anniversary of Professor G. Milovanovic, *NIS, SERVIA Y MONTENEGRO*, 2008.
- MARCELLAN, F.
Integrable systems, spectral transforms, self-similar reductions, and orthogonal polynomials, Workshop on Special Functions and Physical Models, *ZARAGOZA, ESPAÑA*, 2008.
- MARCELLAN, F.
Carathéodory Functions, Perturbation of measures and Spectral transformations of measures on the unit circle , Constructive Theory of Functions, *CAMPOS DO JORDAO, BRASIL*, 2008.
- MARCELLAN, F.
Recent trends in two variable orthogonal polynomials , Jairo Charris Lectures on Algebra and Analysis, *BOGOTÁ, COLOMBIA*, 2008.
- MARTINEZ-RATON, Y.; CINACCHI, G.; VELASCO, E.; NAVASCUÉS, G.; MEDEROS, L.; TANI, A.
Potenciales de depleción extremadamente atractivos en mezclas de esferas blandas , Congreso de Física Estadística, FisEs08, *SALAMANCA, ESPAÑA*, 2008.
- MARTINEZ-RATON, Y.; VELASCO, E.
Biaxial nematic and smectic phases of parallel particles with different cross sections, 10th Granada Seminar on Computational and Statistical Physics: Modeling and Simulation of New Materials, *GRANADA, ESPAÑA*, 2008.
- MOLINA MEYER, M.
Competition and cooperation , 5th World Congress of Nonlinear Analysts, *ORLANDO, ESTADOS UNIDOS DE AMERICA*, 2008.
- MORO, E.; IRIBARREN, J.L.
Extreme events in human activities: Impact on information spreading in social networks, Extreme Events: Theory, Observations, Modeling, and Prediction, *PALMA DE MALLORCA, ESPAÑA*, 2008.
- MORO, E.; LILLO, F.; VAGLICA, G.; MANTEGNA, R.N.
Financial Market Ecology: Taxonomy of investment strategies, First Steps Toward Understanding Market Ecologies, *New Mexico, ESTADOS UNIDOS DE AMERICA*, 2008.
- MORO, E.; LILLO, F.; VAGLICA, G.; MANTEGNA, R.N.
Ecology of strategies and their dynamics in financial markets , Models and markets: relating to the future, ATACD Colloquium, *LONDRES, REINO UNIDO*, 2008.
- MORO, J.
Perturbación espectral y algoritmos matriciales de autovalores , Coloquio del Área de Mecánica Matemática del Centro de Modelamiento Matemático (CMM) de la Universidad de Chile, *SANTIAGO DE CHILE, CHILE*, 2008.
- MORO, J.; PELAEZ, M.J.; KRESSNER, D.
Structured condition numbers for multiple eigenvalues , Householder Symposium XVII, *ZEUTHEN, ALEMANIA*, 2008.
- MOYANO, L.G.; SANCHEZ, A.
Prisoners dilemma on a network of heterogeneous agents: cooperation and learning coevolution, Networks 2008, *PAMPLONA, ESPAÑA*, 2008.

- MOYANO, L.G.; SANCHEZ, A.
Mixed dynamics in evolutionary games, Física Estadística 08, *SALAMANCA*, ESPAÑA, 2008.
- MUÑOZ-GARCIA, J.; CUERNO, R. ; CASTRO, M.
Acoplamiento del transporte de material y la morfología en superficies sometidas a erosión iónica, XV Congreso de Física Estadística, Fises 2008, *SALAMANCA*, ESPAÑA, 2008.
- NICOLI, M.; CASTRO, M.; CUERNO, R.
Hydrodynamic Limit of an Unstable Diffusive Growth Model , Phase Field Simulations: Materials Science meets Biology and Medicine, *DRESDE*, ALEMANIA, 2008.
- NICOLI, M.; CUERNO, R. ; CASTRO, M.
Inestabilidades morfológicas y rugosidad cinética en procesos de crecimiento con efectos no locales, XV Congreso de Física Estadística, Fises 2008, *SALAMANCA*, ESPAÑA, 2008.
- PABLO, A. D. ; PEREZ-LLANOS, M.; ROSSI, J.D.
Quenching for systems: Numerical approximations and possible analytical continuation , Workshop on Partial Differential Equations, *BUCAREST*, RUMANIA, 2008.
- PARRY, A.O.; RASCON, C. ; WILDING, N.B.; EVANS, R.
Continuous Capillary Condensation , MOSSNOHO Workshop II, *MADRID*, ESPAÑA, 2008.
- PELAEZ, M.J.; MORO, J.
Structured Hölder condition numbers for eigenvalues under fully nongeneric perturbations , Minisimposio Eigenproblems: theory and computation, de XV Conference of the International Linear Algebra Society, *CANCÚN*, MÉXICO, 2008.
- PEREZ, C. ; CUESTA, J. A. ; SANCHEZ, A.
Juegos evolutivos y cooperación en poblaciones estructuradas: el papel de la estructura social y la dinámica evolutiva, Física Estadística 08, *SALAMANCA*, ESPAÑA, 2008.
- PEREZ, C. ; CUESTA, J. A. ; SANCHEZ, A.
Understanding the effect of population structure on the evolution of cooperation , International Workshop on Challenges and Visions in the Social Sciences, *ZURICH*, SUIZA, 2008.
- PEREZ, C. ; CUESTA, J. A. ; SANCHEZ, A.
Evolutionary games and cooperation: the complex effect of population structure , International Conference on Economic Science with Heterogeneous Interacting Agents 2008, *VARSOVIA*, POLONIA, 2008.
- PEREZ, C. ; CUESTA, J. A. ; SANCHEZ, A.
The complex effect of population structure on the evolution of cooperation , International Workshop: Sociophysics: Status and Perspective, *TORINO*, ITALIA, 2008.
- PEREZ, C. ; CUESTA, J. A. ; SANCHEZ, A.
Promotion of cooperation on networks? The best response case, BCNetWorkshop, *BARCELONA*, ESPAÑA, 2008.
- PEREZ-LLANOS, M.; ROSSI, J.D.
Blow-up for a nonlocal diffusion problem with Neumann boundary conditions and a reaction term , Third Euro-Japanese Workshop on Blow-up, *SENDAI*, JAPON, 2008.
- PEREZ-LLANOS, M.; ROSSI, J.D.
Blow-up for a nonlocal diffusion equation and a reaction term with Neumann boundary conditions , Encuentro Internacional de EDPs No lineales, *BUENOS AIRES*, ARGENTINA, 2008.

- PESTANA, D.
An explicit expression of the ratio asymptotics of Hermite-Padé polynomials for Nikishin systems, IX International Conference Approximation and Optimization in the Caribbean APPOPT 08, *SAN ANDRÉS*, COLOMBIA, 2008.
- PONCELA, J.; GOMEZ-GARDEÑES, J.; SANCHEZ, A.; FLORIA, L.M.; MORENO, Y.
Complex cooperative networks through evolutionary preferential attachment, Física Estadística 08, *SALAMANCA*, ESPAÑA, 2008.
- RODRIGUEZ, J. M.
Soluciones aproximadas de ecuaciones diferenciales en dominios de Denjoy, Colloquium de la Facultad de Matemáticas de la Universidad Autónoma de Guerrero, *ACAPULCO*, MÉXICO, 2008.
- RODRIGUEZ, J. M.
Structure theorem for Riemannian surfaces and the topology of balls, Colloquium of the Department of Mathematics of Okayama University, *OKAYAMA*, JAPON, 2008.
- RODRIGUEZ, J. M.
Location of zeros of Sobolev orthogonal polynomials in curves, International Workshop on Orthogonal Polynomials and Approximation Theory 2008 (Conference in honor of Guillermo López Lagomasino's 60th birthday), *MADRID*, ESPAÑA, 2008.
- RODRIGUEZ, J. M.
Gromov hyperbolicity of Poincaré and quasihyperbolic metrics, Conference on Riemann surfaces and discontinuous groups, *OKAYAMA*, JAPON, 2008.
- RODRIGUEZ, J. M.
A simple characterization of weighted Sobolev spaces with bounded multiplication operator, Constructive Theory of Functions CTF 08, *CAMPOS DO JORDAO*, BRASIL, 2008.
- RODRIGUEZ, J. M.
A simple characterization of weighted Sobolev spaces with bounded multiplication operator, IX International Conference Approximation and Optimization in the Caribbean APPOPT 08, *SAN ANDRÉS*, COLOMBIA, 2008.
- RODRIGUEZ, J. M.; PESTANA, D.
On the conformal representation of compact Riemann surfaces, International Workshop on Orthogonal Polynomials and Approximation Theory 2008 (Conference in honor of Guillermo López Lagomasino's 60th birthday), *MADRID*, ESPAÑA, 2008.
- RODRIGUEZ, J. M.; TOURIS, E.
Approximation in weighted Sobolev spaces by smooth functions, International Workshop on Orthogonal Polynomials and Approximation Theory 2008 (Conference in honor of Guillermo López Lagomasino's 60th birthday), *MADRID*, ESPAÑA, 2008.
- RODRIGUEZ, J. M.; TOURIS, E.
Polynomial approximation in Sobolev spaces with arbitrary weights, International Workshop on Orthogonal Polynomials and Approximation Theory 2008 (Conference in honor of Guillermo López Lagomasino's 60th birthday), *MADRID*, ESPAÑA, 2008.
- SANCHEZ, A.
Promotion of cooperation on networks? The best response case, International Workshop "The Physics approach to Risk: Agent-based models and networks", *ZÜRICH*, SUIZA, 2008.

- SANCHEZ, A.
Games on social networks: cooperation, structure and dynamics, International Conference “Modelling and Computation on Complex Networks and Related Topics” NetWorks 2008, PAMPLONA, ESPAÑA, 2008.
- TOURIS, E.
Weierstrass' Theorem with Weights, XI Intenational Conference Approximation and Optimization in the Caribbean-APPOPT 2008, SAN ANDRÉS, COLOMBIA, 2008.
- TOURIS, E.
Una nueva caracterización para la Hiperbolicidad de Gromov con curvatura variable, Seminario Rubio de Francia, ZARAGOZA, ESPAÑA, 2008.
- TOURIS, E.
Una nueva caracterización para la Hiperbolicidad de Gromov con curvatura variable, Seminario Teoría de la Aproximación y Polinomios Ortogonales, ALMERIA, ESPAÑA, 2008.
- TOURIS, E.
Simple closed geodesics determine the Gromov hyperbolicity for surfaces with variable curvature, Seminario de Matemática Aplicada y Análisis, LOGROÑO, ESPAÑA, 2008.
- VELASCO, E.; MARTINEZ-RATON, Y.
Novel symmetries and clustering effects in two-dimensional anisotropic fluids, 10th Granada Seminar on Computational and Statistical Physics: Modeling and Simulation of New Materials, GRANADA, ESPAÑA, 2008.

Actividades de formación y movilidad de personal investigador

Estancias en otros centros

- CARLOS RASCON DIAZ
Título: Estancia de investigación sobre Adsorción de Fluidos (Wetting) en Substratos Estructurados
Centro Externo: Imperial College London
País: REINO UNIDO
Duración: 01/05/2008 a 31/07/2008.
- FERNANDO LLEDO MACAU
Título: Estancia de investigación sobre Analisis funcional y teoría espectral de grafos
Centro Externo: Department of Mathematics, University of Mainz
País: ALEMANIA
Duración: 01/11/2008 a 15/11/2008.
- FROILAN CESAR MARTINEZ DOPICO
Título: Accurate eigenvalue computations with Implicit Jacobi Methods
Centro Externo: Department of Mathematics, North Carolina State University (NCSU)
País: ESTADOS UNIDOS DE AMERICA
Duración: 12/04/2008 a 26/04/2008.
- JULIO MORO CARREÑO
Título: Estancia de investigación Institut für Mathematik
Centro Externo: Technische Universität Berlin
País: ALEMANIA
Duración: 05/2008 a 05/2008.

- JULIO MORO CARREÑO
Título: Estancia de investigación
Centro Externo: Dpto. de Matemáticas, Universidad Católica del Norte
País: CHILE
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- RODOLFO CUERNO REJADO
Título: Estancia investigación
Centro Externo: Science School, Sookmyung University
País: COREA DEL SUR
Duración: 13/10/2008 a 26/10/2008.

Estancias de investigadores externos en la universidad

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Centro Externo: Lehrstuhl Theoretische Physik I, Physikalisches Institut, Universität Bayreuth
País: ALEMANIA
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Título: Estancia de Yves Le Yaouanq
Centro Externo: Internado de la école Polytechnique
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Duración: 10/04/2008 a 05/07/2008.
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Centro Externo: Departamento de Fundamentos del Análisis Económico Universidad de Alicante
País: ESPAÑA
Duración: 03/06/2008 a 02/06/2010.
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Centro Externo: Centro Brasileiro de Pesquisas Físicas
País: BRASIL
Duración: 29/03/2007 a 28/09/2008.
- CARLOS RASCON DIAZ
Título: Estancia de investigación del Prof. Andrew O. Parry, sobre Adsorción de Fluidos (Wetting) en Substratos Estructurados
Centro Externo: Imperial College London
País: REINO UNIDO
Duración: 25/08/2008 a 21/09/2008.
- FERNANDO LLEDO MACAU
Título: Estancia Olaf Post en el programa de máster
Centro Externo: Departamento de Matemáticas, Universidad Humboldt de Berlin
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Centro Externo: Centre national de la Recherche Scientifique (CNRS)
País: FRANCIA
Duración: 01/10/2007 a 30/09/2008.

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Centro Externo: Departamento de Matemáticas Puras y Aplicadas, Universidad Simón Bolívar
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Centro Externo: Universidad Católica del Norte
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País: ALEMANIA
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