

CURRICULUM VITAE --- Salvador Jiménez

PERSONAL INFORMATION

Family name: Jiménez Surname: Salvador
Sex: Male Date of birth: sept.2,1960 Nationality: Spanish
Present position: Associate Professor
Address: Departamento de Matemática Aplicada a las TT.II.,
E.T.S.I. Telecomunicación, Universidad Politécnica de Madrid,
Avenida Complutense 30, 28040-Madrid, SPAIN.
phone: +(34) 915495700 extension 2209 fax:+(34) 913367289
e-mail: s.jimenez@upm.es

RESEARCH INTERESTS

Geometric numerical integration methods for dynamical systems.

1. Fractional differential equations.
2. Mathematical data retrieval
3. Numerical methods for Linear Algebra.

ACADEMIC BACKGROUND

1978-1983: Licenciado en Ciencias Físicas, Universidad Complutense de Madrid.

1984-1988: Doctor en Ciencias Físicas, Universidad Complutense de Madrid.

PREVIOUS PROFESSIONAL POSITIONS

1988-1990: Visting member, C.I.M.S., New York University, U.S.A.

1991-1992: Fellow, C.E.R.N. (Geneva), Switzerland.

1993-1994: Assistant Professor, Universidad Complutense de Madrid, Spain.

1994-2005: Associate Professor, Universidad Alfonso X El Sabio, Spain.

PUBLICATIONS (last 10 years)

- S. Jiménez, P. Pascual, C. Aguirre & L.Vázquez, "A panoramic view of some perturbed nonlinear wave equations", *International Journal of Bifurcation and Chaos* **14** (1), pp 1-40 (2004)

- S. Jiménez & L. Vázquez, "A Dynamics approach to the computation of eigenvectors of matrices", *Journal of computational Mathematics* **23**(3), pp 657-672 (2005).

- Jing-Li Fu, Li-Qun Chen, S. Jiménez & Yi-Fa Tang, "Non Noether symmetries and Lutzky conserved quantities for mechanico-electrical systems", *Physics Letters A* **358**(1), pp 5-10 (2006).

-S. Jiménez & Y.F. Tang, "Analysis of the numerical methods for a fractional Dirac equation", in *Proceedings of The Fifth International Conference on Engineering Computational Technology*, B.H.V. Topping, G. Montero and R. Montenegro, (Editors), Civil-Comp Press, Stirlingshire, United Kingdom, paper 19, 2006.

-Jing-Li Fu, Gui-Dong Dai, Salvador Jiménez & Yi-Fa Tang, "Discrete variational principle and first integrals for Lagrange-Maxwell mechanico-electrical systems", *Chinese Physics* **16**(3), (2007).

-L. Vázquez, M.-P. Zorzano & S. Jiménez, "Spectral information retrieval from integrated broadband photodiode Martian ultraviolet measurements", *Optics Letters* **32**, pp 2596-2598, (2007).

-Fu Jing-Li, Salvador Jiménez, Tang Yi-Fa and Luis Vázquez, "Construction of exact invariants of time-dependent linear nonholonomic dynamical systems", *Physics Letters A* **378**, pp 1555-1561, (2008).

-Fu Jing-Li, Nie Ning-ming, Huang Jian-Fei, Jiménez Salvador, Tang Yi-Fa, Vázquez Luis, Zhao Wei-Jia, "Noether conserved quantities and Lie point symmetries of difference Lagrange-Maxwell equations and lattices", *Chinese Physics B*, Vol 18 pp 2634-2641 (2009)

- M. -P. Zorzano, L. Vázquez and S. Jiménez
"Retrieval of ultraviolet spectral irradiance from filtered photodiode measurements", *Inverse Problems* Vol 25 pp: 115023 (9pp), (2009).
- Ningming Nie, Yanmin Zhao, Min Li, Xiangtao Liu, S. Jiménez, Yifa Tang and L. Vázquez
"Solving Two-point Boundary Value Problems of Fractional Differential Equations via Spline Collocation Methods", *International Journal of Modeling Simulation and Scientific Computing*, Vol 1, No 1 pp 117-132 (2010).
- Nie Ning-ming, Zhao Yan-min, S. Jiménez, Li Min, Tang Yi-fa, L. Vázquez,
"Solving two-point boundary value problems of fractional differential equations with Riemann-Liouville derivatives", *Journal of System Simulation*, Vol 22, No 1, pp 20-24 (2010).
- L. Vázquez, S. Jiménez, A. Bellorín, L.E. Guerrero, J.A. González,
"Internal degrees of freedom in perturbed nonlinear Klein-Gordon equations", *Differential Equations & Application*, Vol 3, No 4, pp 527-553, (2011).
- J.A. González, S. Jiménez, A. Bellorín, L.E. Guerrero, L. Vázquez,
"Internal degrees of freedom, long-range interactions and nonlocal effects in perturbed Klein-Gordon equations", *Physica A*, Vol 391 No 3, pp 515-527, (2012).
- L. Vázquez, S. Jiménez
Newtonian Nonlinear Dynamics for Complex Linear and Optimization Problems
ISBN 978-1-4614-5911-8 ISBN 978-1-4614-5912-5 (eBook)
Springer Verlag 2013.
- S. Jiménez, J.A. González, L. Vázquez,
"Fractional Duffing's equation and geometrical resonance", *International Journal of Bifurcation and Chaos*, Vol 25, No 3, 1350089 (13 pages) (2013).