

**PAPERS PUBLISHED BY MEMBERS OF CMAF IN REFEREED  
JOURNALS (2007)**

**MATHEMATICAL BIOLOGY**

**N. STOLLENWERK, J. MARTINS AND A. PINTO**, The phase transition lines in pair approximation for the basic reinfection model SIRI, *Physics Letters A* 371, (2007), 379-388. [IP=1.468]

**M.G.M. GOMES, P. RODRIGUES, F.M. HILKER, N.B. NATALIA BENIERS, M. MUEHLEN, A.C. PAULO AND G.F. MEDLEY**, Implications of partial immunity on the prospects for tuberculosis control by post-exposure interventions, *Journal of Theoretical Biology*, 248 (2007), 608-617. [IP=2.264]

**P. RODRIGUES, M.G.M. GOMES AND C. REBELO**, Drug resistance in tuberculosis: A reinfection model, *Theoretical Population Biology*, 71 (2007), 196-212. [IP=2.491]

**D. GÖKAYDIN, J.B. OLIVEIRA-MARTINS, I. GORDO AND M.G.M. GOMES**, The reinfection thresholds regulates pathogen diversity: The case of influenza, *Royal Society Interface*, 4 (2007), 137-142. [IP=2.984]

**L.J. WHITE, J.N. MANDL, M.G.M. GOMES, A.T. BODLEY-TICKELL, P.A. CANE, P. PEREZ, M.M. SIQUEIRA, S.A. PORTES, S.M. STRALIOTTO, M. WARIS, G.F. MEDLEY AND D.J. NOKES**, Understanding the transmission dynamics of RSV: Multiple time series and nested models, *Mathematical Biosciences*, 209 (2007), 222- 239. [IP=1.126]

**S. P. VAN NOORT, J.M.L. LOURENÇO, H. REBELO DE ANDRADE, M. MUEHLEN AND M.G.M. GOMES**, *Gripenet: An internet-based system to monitor influenza-like illness uniformly across Europe*, *Eurosurveillance Monthly*, Vol. 12, Issue 7-8. (<http://www.eurosurveillance.org/em/v12n07/1207-223.asp>)

**LOGIC**

**BRUNO LOFF, JOSÉ FÉLIX COSTA AND JERZY MYCKA**, Computability on reals, infinite limits and differential equations, *Applied Mathematics and Computation*, 191 (2) (2007), 353-371. [IP=0.816]

**JERZY MYCKA AND JOSÉ FÉLIX COSTA**, A new conceptual framework for analog computation, *Theoretical Computer Science*, 374 (1-3) (2007), 277-290. [IF=0.843]

**M.J. EDMUNDO AND RAF CLUCKERS**, Integration of positive constructible functions against Euler characteristic and dimension, *J. Pure and App. Algebra* 208 (2) (2007), 691-698. [IP=0.470]

**M.J. EDMUNDO**, A fixed point theorem in o-minimal structures, *Ann. Inst. Fourier Grenoble* 57 (5) (2007), 1441-1450. [IP=0.698]

**M.J. EDMUNDO AND P. ELEFTHERIOU**, The universal covering homomorphism in o-minimal expansions of groups, *Math. Logic Quart.* 53 (6) (2007), 571- 582. [IP=0.629]

**F. FERREIRA AND PAULO OLIVA**, Bounded Functional Interpretation and Feasible Analysis, *Annals of Pure and Applied Logic*, 207, 145 (2007), 115-129. [IP=0.582]

**PAOLA D'AQUINO AND GIUSEPPINA TERZO**, A note on the decidability of exponential terms, *Math. Log. Quart.*, 53, n3 (2007), 306-310. [IP=0.629]

**ITAÏ BEN YAACOV AND ALEXANDER USVYATSOV**, On d-finiteness in continuous structures. *Fund. Math.* 194 (2007), no. 1, 67--88. [IF= 0.398].

### **HYPERBOLIC SYSTEMS AND SINGULARITIES IN PDEs**

**S.N.ANTONTSEV AND N.V.CHEMETOV**, Flux of superconducting vortices through a domain, *SIAM Journal on Mathematical Analysis*, 39 (2007), 263-280. [IP= 1.134]

**R. BARROS AND S. L. GAVRILYUK**, Dispersive nonlinear waves in two-layer flows with free surface. II. Large amplitude solitary waves embedded into the continuous spectrum, *Studies in Applied Mathematics*, 119 (2007), 213-251. [IP= 1.031]

**R. BARROS, S. L. GAVRILYUK AND V. M. TESHUKOV**, Dispersive nonlinear waves in two-layer flows with free surface. I. Model derivation and general properties, *Studies in Applied Mathematics*, 119 (2007), 191-211. [IP= 1.031]

**J. P. DIAS AND M. FIGUEIRA**, Existence of weak solutions for a quasilinear version of Benney equations, *J. Hyperbolic. Diff. Eq.*, 4 (2007), 555-563. [IP= 0.500]

**J. P. DIAS, M. FIGUEIRA AND FILIPE OLIVEIRA**, Existence of local strong solutions for a quasilinear Benney system, *C. R. Acad. Sci. Paris, Ser.I*, 344 (2007), 493-496. [IP= 0.443]

**LUIS SARAIVA**, *The Beginnings of the Royal Military Academy of Rio de Janeiro*, Revista Brasileira de História da Matemática, vol. 7 (2007), nº 13, 19-41.

## NONLINEAR ANALYSIS AND FREE BOUNDARY PROBLEMS

**S.N. ANTONTSEV**, **B. AMAZIANE** AND **L. PANKRATOV**, Homogenization of a class of nonlinear elliptic equations with non-standard growth, Comptes rendus de l'Académie des Sciences, Mécanique, Paris, 335(2007), 138-143. [IF=0.490]

**J. L. DUCLA-SOARES**, **M. SANTOS-BENTO**, **A. ANDRADE**, **E. DUCLA-SOARES**, **J. B. BOTO**, **L. SILVA-CARVALHO** AND **I. ROCHA**, *Wavelet analysis of autonomic outflow of normal subjects on head-up tilt, cold pressor test; Valsava manoeuvre and deep breathing*, Experimental Physiology 92 4: 677-686. [IP=2.339]

**S.N. ANTONTSEV**, **MICHEL CHIPOT** AND **YTIAN XIE**, *Uniqueness results for equations of the  $p(x)$ -Laplacian type*, Advances in Mathematical Sciences and Applications, Vol. 17 (2007), 287-304.

**S.N. ANTONTSEV** AND **ILDEFONSO DIAZ**, *Mathematical analysis of the discharge of a laminar hot gas in a colder atmosphere*, RACSAM, Rev. R. Acad. Cien. Serie A. Mat, Vol. 101 (1) (2007), 119-124.

## MATHEMATICAL AND NUMERICAL METHODS IN MECHANICS

**S. BANDYOPADHYAY**, **A. C. BARROSO**, **B. DACOROGNA** AND **JOSÉ MATIAS**, Differential inclusions for differential forms, Calculus of Variations, 28 (2007), 449-469. [IF= 0.992]

**S.N. ANTONTSEV** AND **N.V. CHEMETOV**, Flux of superconducting vortices through a domain, SIAM Journal on Mathematical Analysis, Vol. 39, N° 1 (2007), 263-280. [IF=1.134] REMARK: THIS ITEM APPEARS ALSO IN THE GROUP "HYPERBOLIC SYSTEMS..."

**N.V. CHEMETOV** AND **MANUEL D.P. MONTEIRO MARQUES**, Non-convex quasi-variational differential inclusions, Set-Valued Analysis, Vol. 15, N°3 (2007), 209-221. [IF=0.707]

**J. ESCHENBURG**, **M. J. FERREIRA** AND **R. TRIBUZY**, Isotropic ppmc immersions, Diff. Geom. Appl. 25 (2007), 351-355. [IF= 0.407]

**JOÃO A.C. MARTINS**, **MANUEL D.P. MONTEIRO MARQUES** AND **ADRIEN PETROV**, On the stability of quasi-static paths for finite-dimensional elastic-plastic systems with hardening, ZAMM, 87 (2007), 303-313. [IF=0.534]

RAOUL DZONOU AND **MANUEL D.P. MONTEIRO MARQUES**, *A sweeping process approach to inelastic contact problems with general inertia operators*, European Journal of Mechanics A/Solids, 26 (2007), 474-490. [IP=0.897]

RAOUL DZONOU, LAETITIA PAOLI AND **MANUEL D.P. MONTEIRO MARQUES**, Algorithme de type “sweeping process” pour un problème de vibro-impact avec un opérateur d’inertie non trivial, Comptes Rendus de l’Académie des Sciences de Paris-Mécanique, 335 (2007), 56-60. [IF=0.490]

**C. BARBAROSIE AND ANCA-MARIA TOADER**, Saint-Venant’s principle and its connections to shape and topology optimization, Journal of Applied Mathematics and Mechanics ZAMM, 88, n1, (2007), 23-32. [IF=0.534]

P. G. BOUCHITTÉ, L. MASCARENHAS AND **LUIS TRABUCHO**, On the Curvature and Torsion Effects in Onedimensional Waveguides, ESAIM: COCV, Vol. 13 (4) (2007), 793-808. [IF= 0.647]

**M.J. FERREIRA** AND R. TRIBUZY, *On the nullity of isometric immersions from Kahler manifolds*, Rend. Sem. Mat. Torino, 65, no. 4 (2007).

## STOCHASTIC ANALYSIS, MATHEMATICAL PHYSICS AND APPLICATIONS

**L. CONSIGLIERI** AND E.B. PIRES, Analytical approach for the evaluation of the torques using inverse multibody dynamics, Multibody System Dynamics 18:3 (2007), 471-483. [IP=0.630]

**R. VILELA MENDES** AND R. LIMA, “Fluctuations and control in the Vlasov-Poisson equation” Physics Letters A 368 (2007) 87-91. [IP=1.468]

L. VAZQUEZ AND **R. VILELA MENDES**, The dynamical nature of a backlash system with and without fluid friction, Nonlinear Dynamics 47 (2007), 363-366. [IP=0.902]

J.F. MARTINS, P.J. SANTOS, A.J. PIRES AND **R. VILELA MENDES**, Entropy-based choice of a neural network drive model, IEEE Transactions on Industrial Electronics 54 (2007), 110-116. [IP=0.590]

## DIFFERENTIAL AND FUNCTIONAL EQUATIONS

**J. BUESCU**, Eigenvalue distribution of Mercer-like kernels. *Mathematische Nachrichten* 280 (2007), 984--995. [IF=0.382]

**J BUESCU**, AC Paixao, Eigenvalue distribution of positive definite kernels on unbounded domains, *INTEGRAL EQUATIONS AND OPERATOR THEORY* 57 (2007), 19-41 [IF=0.481]

**T. FARIA**, AND S. TROFIMCHUK, Positive Heteroclinics and Traveling Waves for Scalar Population Models with a Single Delay, *Appl. Math. Comput.*, 185 (2007), 594--603. [IF=0,816]

**T. FARIA** AND J.J. OLIVEIRA, Global attractivity for scalar differential equations with small delay, *J. Math. Anal. Appl.*, 329 (2007), 1397--1420. [IF= 0,758]

**P. RODRIGUES**, **C. REBELO** AND **M.G.M. GOMES**, Drug resistance in tuberculosis: A reinfection model, *Theoretical Population Biology*, 71 (2007), 196-212. [IF= 2.491] REMARK: THIS ITEM APPEARS ALSO IN THE GROUP "MATH BIOLOGY".

**J. ANGEL CID**, **A. CABADA** AND **LUIS SANCHEZ**, Positivity and lower and upper solutions for fourth order boundary value problems, *Nonlinear Analysis Series A: Theory, Methods & Applications* 67 (2007), 1599-1612. [IF=0,677, NC=0]

**RICARDO ENGUIÇA** AND **LUÍS SANCHEZ**, *Existence and localization of solutions for fourth-order boundary-value problems*, *Electr. J. Diff. Equations* Vol. 2007. Nº 127 (2007), 1-10.

**P. HABETS** AND **LUÍS SANCHEZ**, *A monotone method for fourth order boundary value problems involving a factorizable linear operator*, *Portugaliae Mathematica* 64 (2007), 255-279.

## STATISTICS

**M. I. BARÃO**, **L. DE HAAN** AND **D. LI**, *Comparison of Estimators in Multivariate Extreme Value Theory*, *International Journal of Statistics and Systems* 2 (1), 2007.