

Departmental List of Publications for the Year 2010

- [1] Areeg Abdalla and James J. Buckley. Monte Carlo methods in fuzzy multivariate regression. *J. Fuzzy Math.*, 18(2):403–422, 2010.
- [2] Mark S. Ashbaugh, Fritz Gesztesy, Marius Mitrea, Roman Shterenberg, and Gerald Teschl. The Krein-von Neumann extension and its connection to an abstract buckling problem. *Math. Nachr.*, 283(2):165–179, 2010.
- [3] A. Blokh, X. Buff, A. Chéritat, and L. Oversteegen. The solar Julia sets of basic quadratic Cremer polynomials. *Ergodic Theory Dynam. Systems*, 30(1):51–65, 2010.
- [4] Alexander Blokh and Lex Oversteegen. Monotone images of Cremer Julia sets. *Houston J. Math.*, 36(2):469–476, 2010.
- [5] N. Bouaynaya, R. Shterenberg, and D. Schonfeld. Optimal perturbation control of gene regulatory networks. In *Genomic Signal Processing and Statistics (GENSIPS), 2010 IEEE International Workshop on*, pages 1–4, nov. 2010.
- [6] N. Chernov and N. Simányi. Upgrading the local ergodic theorem for planar semi-dispersing billiards. *J. Stat. Phys.*, 139(3):355–366, 2010.
- [7] N. Chernov, Yu. Stoyan, and T. Romanova. Mathematical model and efficient algorithms for object packing problem. *Comput. Geom.*, 43(5):535–553, 2010.
- [8] Nikolai Chernov. The work of Dmitry Dolgopyat on physical models with moving particles. *J. Mod. Dyn.*, 4(2):243–255, 2010.
- [9] Nikolai Chernov and Dmitry Dolgopyat. Lorentz gas with thermostatted walls. *Ann. Henri Poincaré*, 11(6):1117–1169, 2010.
- [10] Clinton P. Curry. Irreducible Julia sets of rational functions. *J. Difference Equ. Appl.*, 16(5-6):443–450, 2010.
- [11] Clinton P. Curry and John C. Mayer. Buried points in Julia sets. *J. Difference Equ. Appl.*, 16(5-6):435–441, 2010.
- [12] Felix Finster and Christian Hainzl. Quantum oscillations can prevent the big bang singularity in an Einstein-Dirac cosmology. *Found. Phys.*, 40(1):116–124, 2010.
- [13] Christian Hainzl. On the static and dynamical collapse of white dwarfs. In *Entropy and the quantum*, volume 529 of *Contemp. Math.*, pages 189–202. Amer. Math. Soc., Providence, RI, 2010.
- [14] Christian Hainzl and Robert Seiringer. Asymptotic behavior of eigenvalues of Schrödinger type operators with degenerate kinetic energy. *Math. Nachr.*, 283(3):489–499, 2010.
- [15] Eman Hamza, Robert Sims, and Günter Stolz. A note on fractional moments for the one-dimensional continuum Anderson model. *J. Math. Anal. Appl.*, 365(2):435–446, 2010.
- [16] Takashi Ichinose and Yoshimi Saitō. Dirac-Sobolev spaces and Sobolev spaces. *Funkcial. Ekvac.*, 53(2):291–310, 2010.
- [17] Robert M. Kauffman and Mayumi Sakata. Generalized eigenfunction expansions for spectral multiplicity one and application in analytic number theory. *Rocky Mountain J. Math.*, 40(1):243–277, 2010.
- [18] Tai-Ping Liu, Shih-Hsien Yu, and Yanni Zeng. Viscous conservation laws, Part I: scalar laws. *Bull. Inst. Math. Acad. Sin. (N.S.)*, 5(3):233–310, 2010.
- [19] Marco Marletta, Roman Shterenberg, and Rudi Weikard. On the inverse resonance problem for Schrödinger operators. *Comm. Math. Phys.*, 295(2):465–484, 2010.
- [20] N. Mavinga and M. N. Nkashama. Steklov-Neumann eigenproblems and nonlinear elliptic equations with nonlinear boundary conditions. *J. Differential Equations*, 248(5):1212–1229, 2010.
- [21] N. Mavinga and M.N. Nkashama. Bounded solutions of nonlinear parabolic equations. *Electronic J. Differential Equations*, Conf. 19:207–220, 2010.
- [22] N. Mavinga and M.N. Nkashama. Steklov spectrum and nonresonance for elliptic equations with nonlinear boundary conditions. *Electronic J. Differential Equations*, Conf. 19:197–205, 2010.

- [23] M. N. Nkashama. Unique continuation on the gradient for second order elliptic equations with lower order terms. *J. Comput. Anal. Appl.*, 12(1-B):293–304, 2010.
- [24] Lex G. Oversteegen and Edward D. Tymchatyn. Extending isotopies of planar continua. *Ann. of Math. (2)*, 172(3):2105–2133, 2010.
- [25] Katherine Snider. A uniqueness theorem for an elliptic equation. *Int. J. Appl. Math. Stat.*, 16(M10):101–104, 2010.
- [26] Yu. Stoyan, A. Pankratov, T. Romanova, and N. Chernov. Complete class of phi-functions for basic planar phi-objects. *Doklady Akademii Nauk Ukrainy*, 11:25–30, 2010.
- [27] Rudi Weikard and Maxim Zinchenko. The inverse resonance problem for CMV operators. *Inverse Problems*, 26(5):055012, 10, 2010.
- [28] Yanni Zeng. Gas flows with several thermal nonequilibrium modes. *Arch. Ration. Mech. Anal.*, 196(1):191–225, 2010.
- [29] Henghui Zou. Existence and non-existence for Schrödinger equations involving critical Sobolev exponents. *J. Korean Math. Soc.*, 47(3):547–572, 2010.