

# Departmental List of Publications for the Year 2012

- [1] A. Al-Sharadqah and N. Chernov. A doubly optimal ellipse fit. *Comput. Statist. Data Anal.*, 56(9):2771–2781, 2012.
- [2] A. Balinsky, W. D. Evans, and R. T. Lewis. Hardy’s inequality and curvature. *J. Funct. Anal.*, 262(2):648–666, 2012.
- [3] C. Bennewitz, B. M. Brown, and R. Weikard. Scattering and inverse scattering for a left-definite Sturm-Liouville problem. *J. Differential Equations*, 253(8):2380–2419, 2012.
- [4] C. Bennewitz, B. M. Brown, and R. Weikard. A uniqueness result for one-dimensional inverse scattering. *Math. Nachr.*, 285(8-9):941–948, 2012.
- [5] Matthew Bledsoe. Stability of the inverse resonance problem for Jacobi operators. *Integral Equations Operator Theory*, 74(4):481–496, 2012. PhD advisor: Rudi Weikard.
- [6] Matthew Bledsoe. Stability of the inverse resonance problem on the line. *Inverse Problems*, 28(10):105003, 20, 2012. PhD advisor: Rudi Weikard.
- [7] Alexander Blokh, Clinton Curry, and Lex Oversteegen. Density of orbits in laminations and the space of critical portraits. *Discrete Contin. Dyn. Syst.*, 32(6):2027–2039, 2012.
- [8] Federico Bonetto, Nikolai Chernov, Alexey Korepanov, and Joel L. Lebowitz. Spatial structure of stationary nonequilibrium states in the thermostated periodic Lorentz gas. *J. Stat. Phys.*, 146(6):1221–1243, 2012.
- [9] N. Bouaynaya, R. Shterenberg, and D. Schonfeld. Methods for optimal intervention in gene regulatory networks [applications corner]. *Signal Processing Magazine, IEEE*, 29(1):158 – 163, Jan. 2012.
- [10] N. Chernov, Q. Huang, and H. Ma. Does the best fitting curve always exist? *ISRN Probability and Statistics*, 2012.
- [11] N. Chernov, A. Korepanov, and N. Simanyi. Stable regimes for hard disks in a channel with twisting walls. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 2012.
- [12] N. Chernov and D. Li. Decay of fourier modes of solutions to the dissipative surface quasi-geostrophic equations on a finite domain. *Chaos, Solitons & Fractals*, 45:1192–1200, 2012.
- [13] N. Chernov, Yu. Stoyan, T. Romanova, and A. Pankratov. Phi-functions for 2D objects formed by line segments and circular arcs. *Adv. Oper. Res.*, pages Art. ID 346358, 26, 2012.
- [14] Lee M. Goswick, Emil W. Kiss, Gábor Moussong, and Nándor Simányi. Sums of squares and orthogonal integral vectors. *J. Number Theory*, 132(1):37–53, 2012.
- [15] Pengfei Guan, Junfang Li, and Yanyan Li. Hypersurfaces of prescribed curvature measure. *Duke Math. J.*, 161(10):1927–1942, 2012.
- [16] Eman Hamza, Robert Sims, and Günter Stolz. Dynamical localization in disordered quantum spin systems. *Comm. Math. Phys.*, 315(1):215–239, 2012.

- [17] Paul Jung. Random-time isotropic fractional stable fields. *Journal of Theoretical Probability*, pages 1–16, 2012.
- [18] Kenichi Kanatani, Ali Al-Sharadqah, Nikolai Chernov, and Yasuyuki Sugaya. Renormalization returns: Hyper-renormalization and its applications. In Andrew Fitzgibbon, Svetlana Lazebnik, Pietro Perona, Yoichi Sato, and Cordelia Schmid, editors, *Computer Vision ECCV 2012*, volume 7574 of *Lecture Notes in Computer Science*, pages 384–397. Springer Berlin Heidelberg, 2012.
- [19] Yulia Karpeshina and Roman Shterenberg. Extended states for polyharmonic operators with quasi-periodic potentials in dimension two. *J. Math. Phys.*, 53, 2012.
- [20] Frédéric Klopp, Michael Loss, Shu Nakamura, and Günter Stolz. Localization for the random displacement model. *Duke Math. J.*, 161(4):587–621, 2012.
- [21] Frédéric Klopp, Michael Loss, Shu Nakamura, and Günter Stolz. Understanding the random displacement model: from ground state properties to localization. In *Spectral analysis of quantum Hamiltonians*, volume 224 of *Oper. Theory Adv. Appl.*, pages 183–219. Birkhäuser/Springer Basel AG, Basel, 2012.
- [22] Ian Knowles and Mary A. LaRussa. Lavrentiev’s theorem and error estimation in elliptic inverse problems. In *Spectral theory, function spaces and inequalities*, volume 219 of *Oper. Theory Adv. Appl.*, pages 91–103. Birkhäuser/Springer Basel AG, Basel, 2012.
- [23] Andrew Ledoan, Marco Merkli, and Shannon Starr. A universality property of Gaussian analytic functions. *J. Theoret. Probab.*, 25(2):496–504, 2012.
- [24] Roger T. Lewis. Spectral properties of some degenerate elliptic differential operators. In *Spectral theory, function spaces and inequalities*, volume 219 of *Oper. Theory Adv. Appl.*, pages 139–156. Birkhäuser/Springer Basel AG, Basel, 2012.
- [25] Roger T. Lewis, Junfang Li, and Yanyan Li. A geometric characterization of a sharp Hardy inequality. *J. Funct. Anal.*, 262(7):3159–3185, 2012.
- [26] Tai-Ping Liu and Yanni Zeng. On nonlinear stability of viscous shock waves with physical viscosity. In T. Li and S. Jiang, editors, *Hyperbolic Problems: Theory, Numerics and Applications, Vol. 1*, pages 60–71. World Scientific, 2012.
- [27] R. Manásevich and J. R. Ward. On a result of Brezis and Mawhin. *Proc. Amer. Math. Soc.*, 140(2):531–539, 2012.
- [28] Marco Marletta, S. Naboko, R. Shterenberg, and R. Weikard. On the inverse resonance problem for Jacobi operators—uniqueness and stability. *J. Anal. Math.*, 117:221–247, 2012.
- [29] N. Mavinga and M. N. Nkashama. Nonresonance on the boundary and strong solutions of elliptic equations with nonlinear boundary conditions. *J. Appl. Funct. Anal.*, 7(3):248–257, 2012.
- [30] Bruno Nachtergaele, Stephen Ng, and Shannon Starr. Ferromagnetic ordering of energy levels for  $U_q(\mathfrak{sl}_2)$  symmetric spin chains. *Lett. Math. Phys.*, 100(3):327–356, 2012.
- [31] Bruno Nachtergaele, Robert Sims, and Günter Stolz. Quantum harmonic oscillator systems with disorder. *J. Stat. Phys.*, 149(6):969–1012, 2012.
- [32] Leonid Parnovski and Roman Shterenberg. Complete asymptotic expansion of the integrated density of states of multidimensional almost-periodic schrödinger operators. *Annals of Mathematics*, 176(2):1039–1096, required.

- [33] Yoshimi Saitō and Tomio Umeda. A sequence of zero modes of Weyl-Dirac operators and an associated sequence of solvable polynomials. In *Spectral theory, function spaces and inequalities*, volume 219 of *Oper. Theory Adv. Appl.*, pages 197–209. Birkhäuser/Springer Basel AG, Basel, 2012.
- [34] R. Sigurdson and C. Navasca. Randomized tensor-based algorithm for image classification. In *Signals, Systems and Computers (ASILOMAR), 2012 Conference Record of the Forty Sixth Asilomar Conference on*, pages 1984–1988, 2012.
- [35] Wolfgang Spitzer, Shannon Starr, and Lam Tran. Counterexamples to ferromagnetic ordering of energy levels. *J. Math. Phys.*, 53(4):043302, 22, 2012.
- [36] Shannon Starr, Brigitta Vermesi, and Ang Wei. About thinning invariant partition structures. *J. Stat. Phys.*, 148(2):325–344, 2012.
- [37] Lam Tran, C. Navasca, and Jiebo Luo. Video detection anomaly via low-rank and sparse decompositions. In *Image Processing Workshop (WNYIPW), 2012 Western New York*, pages 17–20, 2012.
- [38] Yanni Zeng. Large time behavior of solutions to nonlinear viscoelastic model with fading memory. *Acta Math. Sci. Ser. B Engl. Ed.*, 32(1):219–236, 2012.
- [39] Henghui Zou. On positive solutions of quasi-linear elliptic equations involving critical Sobolev growth. *J. Funct. Anal.*, 263(12):4034–4058, 2012.