

# Departmental List of Publications for the Year 2017

- [1] Houssam Abdul-Rahman, Bruno Nachtergaele, Robert Sims, and Günter Stolz. Localization properties of the disordered XY spin chain: a review of mathematical results with an eye toward many-body localization. *Ann. Phys.*, 529(7):201600280, 17, 2017.
- [2] N. Amor, N. C. Bouaynaya, R. Shterenberg, and S. Chebbi. On the convergence of constrained particle filters. *IEEE Signal Processing Letters*, 24(6):858–862, June 2017.
- [3] K. Antwi-Fordjour and M. Nkashama. Global existence of solutions of the Gierer-Meinhardt system with mixed boundary conditions. *Applied Mathematics*, 8(6):857–867, 2017.
- [4] B. Bayar, N. Bouaynaya, and R. Shterenberg. Smurc: High-dimension small-sample multivariate regression with covariance estimation. *IEEE Journal of Biomedical and Health Informatics*, 21(2):573–581, March 2017.
- [5] Alexander Blokh, Lex Oversteegen, Ross Ptacek, and Vladlen Timorin. Combinatorial models for spaces of cubic polynomials. *C. R. Math. Acad. Sci. Paris*, 355(5):590–595, 2017.
- [6] Alexander Blokh, Lex Oversteegen, Ross Ptacek, and Vladlen Timorin. The parameter space of cubic laminations with a fixed critical leaf. *Ergodic Theory Dynam. Systems*, 37(8):2453–2486, 2017.
- [7] Alexander Blokh, Lex Oversteegen, and Vladlen Timorin. Non-degenerate locally connected models for plane continua and Julia sets. *Discrete Contin. Dyn. Syst.*, 37(11):5781–5795, 2017.
- [8] Ahmed Ghatasheh and Rudi Weikard. On Leighton’s comparison theorem. *J. Differential Equations*, 262(12):5978–5989, 2017.
- [9] Yulia Karpeshina, Young-Ran Lee, Roman Shterenberg, and Günter Stolz. Ballistic transport for the Schrödinger operator with limit-periodic or quasi-periodic potential in dimension two. *Comm. Math. Phys.*, 354(1):85–113, 2017.
- [10] Junfang Li and Chao Xia. An integral formula for affine connections. *J. Geom. Anal.*, 27(3):2539–2556, 2017.
- [11] Nsoki Mavinga and Mubenga N. Nkashama. Bifurcation from infinity and multiplicity of solutions for nonlinear periodic boundary value problems. *Rend. Istit. Mat. Univ. Trieste*, 49:165–191, 2017.
- [12] Caleb C. Moxley and Nandor J. Simanyi. Homotopical complexity of a 3D billiard flow. In *Dynamical systems, ergodic theory, and probability: in memory of Kolya Chernov*, volume 698 of *Contemp. Math.*, pages 169–180. Amer. Math. Soc., Providence, RI, 2017.
- [13] Caleb C. Moxley and Nandor J. Simanyi. Homotopical complexity of a billiard flow on the 3d flat torus with two cylindrical obstacles. *Ergodic Theory and Dynamical Systems*, pages 1–11, 2017.
- [14] Leonid Parnovski and Roman Shterenberg. Perturbation theory for spectral gap edges of 2D periodic Schrödinger operators. *J. Funct. Anal.*, 273(1):444–470, 2017.

- [15] Günter Stolz. Random operators: disorder effects on quantum spectra and dynamics [book review of MR3364516]. *Bull. Amer. Math. Soc. (N.S.)*, 54(2):347–353, 2017.
- [16] Yanni Zeng. Global existence theory for general hyperbolic-parabolic balance laws with application. *J. Hyperbolic Differ. Equ.*, 14(2):359–391, 2017.