**List of publications - Dr. Dmitry Batenkov**

**Preprints**

[1] D. Batenkov, O. Friedland, and Y. Yomdin. Sampling, metric entropy and dimensionality

reduction. *arXiv:1308.2781 [math]*, August 2013

.

[2] D. Batenkov. Decimated generalized Prony systems. *arXiv preprint arXiv:1308.0753*,

2013.

[3] Dmitry Batenkov and Gal Binyamini. Moment vanishing of piecewise solutions of

linear ODEs. *arXiv preprint arXiv:1302.0991*, 2013.

[4] Dmitry Batenkov and Yosef Yomdin. Taylor Domination, Tur´an lemma, and Poincar´e- Perron Sequences. *arXiv preprint arXiv:1301.6033*, 2013.

**Journal Papers**

[5] Dmitry Batenkov. Complete algebraic reconstruction of piecewise-smooth functions from Fourier data. *Accepted for publication in Mathematics of Computation*, 2014.

[6] Dmitry Batenkov, Niv Sarig, and Yosef Yomdin. Accuracy of algebraic fourier reconstruction for shifts of several signals. *Accepted for publication in Special Issue of STSIP*, 2014.

[7] D. Batenkov, V. Golubyatnikov, and Y. Yomdin. Reconstruction of Planar Domains from Partial Integral Measurements. *Contemporary Mathematics*, 591:51–66, 2013.

[8] D. Batenkov and Y. Yomdin. On the accuracy of solving confluent Prony systems.

*SIAM J. Appl. Math.*, 73(1):134–154, 2013.

[9] Dmitry Batenkov and Yosef Yomdin. Geometry and Singularities of the Prony mapping. *To appear in Proceedings of 12th International Workshop on Real and Complex Singularities*, 2013.

[10] Dmitry Batenkov and Yosef Yomdin. Local and global geometry of Prony systems and Fourier reconstruction of piecewise-smooth functions. *To appear in Abel Symposia*, 2013.

[11] D. Batenkov, N. Sarig, and Y. Yomdin. An “algebraic” reconstruction of piecewisesmooth functions from integral measurements. *Functional Differential Equations*, 19(1-2):13–30, 2012.

[12] D. Batenkov and Y. Yomdin. Algebraic Fourier reconstruction of piecewise smooth functions. *Mathematics of Computation*, 81:277–318, 2012.

[13] Dmitry Batenkov. Open BEAGLE: a generic framework for evolutionary computations. *Genetic Programming and Evolvable Machines*, pages 1–3, 2011.

10.1007/s10710-011-9135-4.

[14] D. Batenkov. Moment inversion problem for piecewise D-finite functions. *Inverse*

*Problems*, 25(10):105001, October 2009.

**Conference Proceedings and Invited Talks**

[15] D. Batenkov. Inverse trigonometric moment problem for piecewise-smooth functions. In *Conference on Polyhedra, Lattices, Algebra, and Moments , National University of*

*Singapore*, 2014.

[16] D. Batenkov. Accurate Fourier reconstruction of piecewise-smooth functions. In *Research*

*Workshop on Integral Transforms and Spectral Theory in Analysis and Geometry,*

*Naharia, Israel*, 2013.

[17] D. Batenkov. Algebraic reconstruction of geometric models from integral measurements. In *2nd International Workshop on Geometry and Symbolic Computations, Haifa*

*University*, 2013.

[18] D. Batenkov, N. Sarig, and Y. Yomdin. Decoupling of Fourier Reconstruction System for Shifts of Several Signals. In *Proceedings of the 10th International Conference on Sampling Theory and Applications (SAMPTA)*, 2013. Arxiv preprint arxiv:1305.2832.

[19] Dmitry Batenkov and Yosef Yomdin. Algebraic signal sampling, Gibbs phenomenon and Prony-type systems. In *Proceedings of the 10th International Conference on Sampling Theory and Applications (SAMPTA)*, 2013. arXiv preprint arXiv:1306.1097.

[20] D. Batenkov, G. Binyamini, and Y. Yomdin. P-recursive moment sequences of piecewise D-finite functions and Prony-type algebraic systems. In *Proceedings of the 18th International Conference on Difference Equations and Applications*, 2012.

[21] D. Batenkov, G. Dinkin, and Y. Yomdin. Automatic animation of high-resolution images. In *Proc. of IEEE 27-th Convention of Electrical and Electronics Engineers in Israel*, 2012.

[22] D. Batenkov, V. Golubyatnikov, and Y. Yomdin. Reconstructing an elliptic curve from a finite collection of its moments (in Russian). In *Proceedings of Geometrical Analysis Workshop on the Teletsky Lake*, 2011.

[23] D. Batenkov and Y. Yomdin. Algebraic reconstruction of piecewise-smooth functions from Fourier data. *Proc. of Sampling Theory and Applications (SAMPTA)*, 2011.

[24] D. Batenkov and Y. Yomdin. Infinitesimal Smale-Pugh problem for Abel equation and Remez-type inequality for Mellin transform of algebraic functions. In *Proceedings of the Israeli-Polish Mathemtaical Meeting, Lodz, Poland*, 2011.

[25] D. Batenkov, V. Golubyatnikov, and Y. Yomdin. On one nonlinear problem of reconstructing a planar region with singular boundaries from a finite number of measurements (in Russian). *Department of Mathematical Analysis, Gorno-Altayskiy Univ.,Russia*, 2:17 – 23, 2010.

[26] D. Batenkov and Y. Yomdin. Accuracy of shock determination from truncated Fourier data. *Proceedings of the 5th International Conference ”Inverse Problems: Modeling and Simulation”*, page 146, 2010.

[27] D. Batenkov, N. Sarig, and Y. Yomdin. An “algebraic” reconstruction of piecewisesmooth functions from integral measurements. *Proc. of Sampling Theory and Applications (SAMPTA)*, 2009.