

Departmental List of Publications

for the Calendar Year 2025

1. Blokh, G. Levin, L. Oversteegen, V. Timorin, “Maps with no a priori bounds,” *Comm. Math. Phys.* 406 (2025), no. 6, Paper No. 141, 15 pp.
2. Blokh, L. Oversteegen, N. Selinger, V. Timorin, S. C. Vejanla, “Lavaurs algorithm for cubic symmetric polynomials,” *Ergodic Theory Dynam. Systems* 45 (2025), no. 8, 2314–2340.
3. Blokh, L. Oversteegen, V. Timorin, Y. Wang, “A model of the cubic connectedness locus,” *Nonlinearity* 38 (2025), no. 7, Paper No. 075014, 37 pp.
4. Z. Grujic, Xu, “Time global regularity of the Navier Stokes system with hyperdissipation - turbulent scenario”, *Ann. PDE* 11:9 (2025)
5. S. Hakkaev, M. Stanislavova, A. G. Stefanov, “Existence and stability for the travelling waves of the Benjamin equation,” *Nonlinearity* 38 (2025), no. 2, Paper No. 025020, 33 pp.
6. S. Hakkaev, M. Stanislavova, A. G. Stefanov, “On the spectral instability of some cnoidal and snoidal waves of the full Klein-Gordon-Zakharov system,” *Dyn. Partial Differ. Equ.* 22 (2025), no. 2, 107–133.
7. S. Hakkaev, A. G. Stefanov, “On the stability of the dnoidal waves for the Schrödinger-KdV system,” *Proc. Amer. Math. Soc.* 153 (2025), no. 2, 715–725.
8. M. N. Haque, N. J. Nasu, M. A. A. Mahbub, M. Mohebujjaman, “Two-grid stabilized lowest equal-order finite element method for the dual-permeability-Stokes fluid flow model,” *J. Sci. Comput.* 102 (2025), no. 1, Paper No. 1, 45 pp.
9. Fan, M., Li, K., Zhang, T., Tian, Q., Geng, B., “PFedDST: Personalized Federated Learning with Decentralized Selection Training,” *Proceedings of the 2025 International Joint Conference on Neural Networks (IJCNN 2025)*.
10. Casey, J., Chen, Q., Fan, M., Geng, B., Shterenberg, R. G., Chen, Z., Li, K.†, “Distributed Collaborative Learning with Representative Knowledge Sharing,” *Mathematics*, 2025, 13(6),
11. Kendall, B., Jin, C., Li, K., Ruan, F., Wang, X., Wang, J.-P., “DNAcycP2: improved estimation of intrinsic DNA cyclizability through data augmentation,” *Nucleic Acids Research*, 2025, 53(5)
12. R. Chen, A. Ottolini, “Cutoff in total variation for the shelf shuffle,” *Electron. Commun. Probab.* 30 (2025), 1–10.
13. Gerencsér, A. Ottolini, “Cutoff for a class of auto-regressive models with vanishing additive noise,” *Scand. J. Stat.* 52 (2025), no. 1, 314–331.
14. A. Ottolini, “Hitting times on the stochastic block model,” *J. Combin.* 16 (2025), no. 4, 531–551.

15. A. Ottolini, S. Steinerberger, “Greedy matching in optimal transport with concave cost,” *Ann. Fenn. Math.* 50 (2025), no. 2, 549–562.
16. I. Kachkovskiy, L. Parnovski, R. Shterenberg, “On gaps in the spectra of quasiperiodic Schrödinger operators with discontinuous monotone potentials,” *Int. Math. Res. Not. IMRN* 2025, no. 7, Paper No. 21 pp.
17. I. Kachkovskiy, L. Parnovski, R. Shterenberg, “Perturbative diagonalization and spectral gaps of quasiperiodic operators on $\ell^2(\mathbb{Z}^d)$ with monotone potentials,” *Comm. Math. Phys.* 406 (2025), no. 6, Paper No. 125, 34 pp.
18. Nandor Simanyi: Proof of Wojtkowski’s Falling Principle Conjecture, *Contemporary Mathematics*, Vol. 825 (2025), pp. 217-223.
19. Heson, S. Starr, J. Thornton, “Violation of ferromagnetic ordering of energy levels in spin rings for the singlet,” *J. Stat. Mech. Theory Exp.* 2025, no. 1, Paper No. 013106, 22 pp.
20. Stanislavova, Stefanov, Asymptotic attraction with algebraic rates toward fronts of dispersive-diffusive Burgers equations, *J. Nonlinear Waves* (2025), 1, pp.1-16.
21. O. Christov, S. Hakkaev, S. Oh, A. G. Stefanov, “Dynamics of the Drinfeld-Sokolov-Wilson system: well-posedness and (in)stability of the traveling waves,” *J. Differential Equations* 439 (2025), Paper No. 113410, 40 pp.
22. V. Iyer, A. G. Stefanov, “Solitary waves for the power degenerate NLS—existence and stability,” *Calc. Var. Partial Differential Equations* 64 (2025), no. 1, Paper No. 19, 33 pp.
23. A. Stefanov, J. Wu, X. Xu, Z. Ye, “Global regularity results of the 2D fractional Boussinesq equations,” *Math. Ann.* 391 (2025), no. 4, 5965–6012.
24. H. Abdul-Rahman, M. Darras, C. Fischbacher, G. Stolz, “Slow propagation velocities in Schrödinger operators with large periodic potential,” *Ann. Henri Poincaré* 26 (2025), no. 10, 3635–3663.
25. M. S. Tisha, M. Kamrujjaman, M. Mohebujjaman, T. Khan, “Decoupled algorithms and analyses for an advection-reaction-diffusion model with stocking and harvesting,” *Comput. Math. Appl.* 189 (2025), 24–47.
26. Y. Zeng, “Time asymptotic behavior of non-equilibrium flows in one space dimension,” *Phys. D* 476 (2025), Paper No. 134647, 9 pp.
27. Y. Zeng, K. Zhao, “Global stability of a system of viscous balance laws arising from chemotaxis with dynamic boundary flux,” *J. Differential Equations* 416 (2025), part 3, 2221–2254.