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Research interests: numerical analysis, kinetic equations, scientific computing, application to plasma physics

Current position: Univ. Prof. (University of Innsbruck)

Publication list: <http://www.einkemmer.net/publications.html>

Selected prizes & awards

2016	Prize of the state capital Innsbruck for scientific research
2015	SciCADE New Talent Award
2014	Oberwolfach Leibniz Graduate Student
2013	Heidelberg Laureate Forum
2013	Appreciation award of the Federal Minister for Science
2013	Marshall Plan Scholarship

Selected scientific presentations

2022	Plenary lecturer at the Conference on Mathematics of Wave Phenomena (Karlsruhe)
2022	Dobbiaco summer school on numerical methods for kinetic equations (Dobbiaco)
2021	Special research program summer school on wave phenomena: analysis and numerics (Karlsruhe)
2018	Invited speaker at the BIRS meeting on Integrating the Integrators for Non-linear Evolution Equations (Banff)
2018	Main lecturer at the workshop on recent progresses in modern numerical analysis (Tokyo)
2015	Plenary lecture at the International Conference on Scientific Computation And Differential Equations (SciCADE)
Since 2014	Invited to five Oberwolfach workshops

Professional Experience

Since 2022	Full Professor, University of Innsbruck, Austria
Since 2017	Associate Professor, University of Innsbruck, Austria
2018	Visiting Researcher, University of Tübingen, Germany
2016-2017	Tenure track position, University of Innsbruck, Austria
2014-2015	Postdoc, University of Innsbruck, Austria

Education

2017	Habilitation in Mathematics, University of Innsbruck, Austria
2014	Ph.D. in Mathematics, University of Innsbruck, Austria
2013	Research stay, University of California, United States of America

Selected scientific publications

- [1] Einkemmer, L., & Lubich, C. (2018). A Low-Rank Projector-Splitting Integrator for the Vlasov–Poisson Equation. *SIAM J. Sci. Comput.*, 40(B1330–B1360). DOI
- [2] Crouseilles, N., Einkemmer, L., & Faou, E. (2015). A Hamiltonian splitting for the Vlasov–Maxwell system. *J. Comput. Phys.*, 238(224–240). DOI
- [3] Ceruti G., Einkemmer, L., Kusch J. & Lubich C. A robust second-order low-rank BUG integrator based on the midpoint rule. *BIT Numer. Math.*, 64(30). DOI
- [4] Einkemmer, L., & Ostermann, A. (2014). Convergence analysis of a discontinuous Galerkin/Strang splitting approximation for the Vlasov–Poisson equations. *SIAM J. Numer. Anal.*, 52(2), 757–778. DOI
- [5] Einkemmer, L., & Joseph, I. (2021). A mass, momentum, and energy conservative dynamical low-rank scheme for the Vlasov equation. *J. Comput. Phys.*, 443, 110495. DOI
- [6] Ding, Z., Einkemmer, L., & Li, Q. (2021). Dynamical Low-Rank Integrator for the Linear Boltzmann Equation: Error Analysis in the Diffusion Limit. *SIAM J. Numer. Anal.*, 59(4). DOI
- [7] Einkemmer, L., & Ostermann, A. (2015). Overcoming order reduction in diffusion-reaction splitting. Part 1: Dirichlet boundary conditions. *SIAM J. Sci. Comput.*, 37(3), A1577–A1592. DOI
- [8] Prugger, M., Einkemmer, L., & Lopez, C. F. (2023). A dynamical low-rank approach to solve the chemical master equation for biological reaction networks. *J. Comput. Phys.*, 489(112250) DOI
- [9] Einkemmer, L., Li, Q., Wang, L., Yang Y. (2024). Suppressing instability in a Vlasov–Poisson system by an external electric field through constrained optimization. *J. Comput. Phys.*, 498(112662). DOI
- [10] Einkemmer, L., & Moriggl, A. (2022). Semi-Lagrangian 4d, 5d, and 6d kinetic plasma simulation on large scale GPU equipped supercomputer. *Int. J. High Perform. Comput. Appl.*, 37(2). DOI