

Modelling and Numerical Simulation of Non-Equilibrium Processes Part 2 (17 Jan 2022–28 Jan 2022)

| Name & Affiliation | Talk Title |
|--|---|
| Walter Boscheri University of Ferrara, Italy | High order finite volume (FV) and discontinuous Galerkin (DG) schemes with IMEX time stepping for the Boltzmann model on unstructured meshes (Video) |
| Stéphane Brull Université de Bordeaux, France | Approximation of the bi-temperature Euler system in 2 space dimensions (Video) |
| Jingrun Chen University of Science and Technology of China, China | Numerical methods for Landau-Lifshitz-Gilbert equation (Video) |
| Nicolas Crouseilles National Institute for Research in Digital Science and Technology (INRIA), France | High order numerical methods for a hybrid kinetic/fluid plasma model (Video) |
| Di Fang University of California, Berkeley, USA | Time-dependent Hamiltonian simulation of highly oscillatory dynamics (Video) |
| Martin Frank Karlsruhe Institute of Technology, Germany | Structure-preserving artificial neural networks for moment closures (Video) |
| Chang Liu Institute of Applied Physics and Computational Mathematics, China | Multiscale numerical methods for kinetic equations and the applications in transport problems (Video) |
| Xin Liu Academy of Mathematics and Systems Science, CAS, China | A penalty-free infeasible approach for a class of nonsmooth optimization problems over the Stiefel manifold (Video) |
| Raphaël Loubère Université de Bordeaux, France | Efficient deterministic numerical scheme to solve BGK and Boltzmann equation in 7D (Video) |
| Ryan McClarren University of Notre Dame, USA | Low-rank method for radiation transport calculations (Video) |
| Luc Mieussens Université de Bordeaux, France | Mesoscopic Boltzmann model equations for thermally perfect gases (Video) |

| Name & Affiliation | Talk Title |
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| Zhichao Peng Michigan State University, USA | Asymptotic numerical scheme and reduced order model for the radiative transfer equation (Video) |
| Teddy Pichard École Polytechnique, France | Construction and analysis of the projective closures (Video) |
| Kunlun Qi The Chinese University of Hong Kong, China | A fast Fourier spectral method for the non-cutoff Boltzmann equation (Video) |
| Jingmei Qiu University of Delaware, USA | A conservative adaptive low rank high order tensor approach for nonlinear Vlasov equations (Video) |
| Thomas Rey Université de Lille, France | On projective integration scheme for single and multiple species gases (Video) |
| Manuel Torrilhon RWTH Aachen University, Germany | Finite element discretizations for moment equations in kinetic gas theory (Video) |
| Lei Wu Southern University of Science and Technology, China | GSIS: a fast-converging and asymptotic-preserving numerical scheme for the non-equilibrium gas dynamics (Video) |

[Link to Videos for Modelling and Numerical Simulation of Non-Equilibrium Processes Part 1](#)