Scalable Methods for Kinetic Equations
Oak Ridge National Laboratory
October 19-23, 2015

Conference Schedule

Monday

8:30–9:00 Tony Mezzacappa, Shi Jin, and Cory Hauck: *Welcome and Opening Remarks*

9:00–9:50 Jim Morel: *New Approaches for Residual Monte Carlo*

10:15–11:05 David Grisheimer: *Strategies and Algorithms for Hybrid Shared-Memory/Message-Passing Parallelism in Monte Carlo Radiation Transport Codes*

11:30–12:20 Ryosuke Park: *Recent Progress in High-Order, Low-Order methods for Thermal Radiative Transfer Problems*

Lunch

1:45–2:35 Greg Hammett: *Properties of Gyrokinetic Turbulence in Tokamaks, and Discontinuous Galerkin Methods for (Gyro)Kinetics*

3:00–3:50 Uri Shumlak: *Higher Moment Models for Multi-Fluid Plasmas*

Tuesday

9:00–9:50 Shi Jin: *Uncertainty quantification for multiscale hyperbolic and kinetic equations with uncertain coefficients*

10:15–11:05 Jeff Haack: *Building a better BGK*

11:30–12:20 Will Taitano: *iFP: An Optimal, Fully Implicit, Fully Conservative, 1D2V Vlasov-Rosenbluth-Fokker-Planck Code for Spherical ICF Simulations*

Lunch

1:45–3:15 Tour of the Spallation Neutron Source

3:15–4:05 Eirik Endeve: *Towards New Computational Methods for Neutrino Transport in Core-Collapse Supernovae*

4:30–5:20 Karl Rupp: *Scaling Deterministic Solution of the Boltzmann Transport Equation on Heterogeneous Computing Platforms*

5:30–7:30 Poster session

Wednesday

9:00–9:50 Russel Caflisch: *Simulation for Electron Impact Excitation/Deexcitation and Ionization/Recombination*

10:15–11:05 Luis Chacon: *Nonlinearly implicit, energy- and charge-conserving multidimensional particle-in-cell algorithms for kinetic simulation of plasmas*

11:30–12:20 Bokai Yan: *Hybrid Methods with Deviational Particles for Inhomogeneous Plasma*

Free Afternoon

Thursday

9:00–9:50 Alexander Bobylev: *On some properties of the Landau kinetic equation*

10:15–11:05 Giacomo Dimarco: *Implicit-Explicit linear multistep methods for kinetic equations*

11:30–12:20 Li Wang: *An asymptotic-preserving scheme for linear kinetic equation with fractional diffusion limit*

Lunch

1:45–2:35 Tom Evans: *TBD*

3:00–3:50 Robert Martin: *Kinetic Modeling Efforts in the AFRL In-Space Propulsuon Branch*

6:30–8:30 Dinner at *Chop House, 9700 Kingston Pike*

Friday

9:00–9:50 Irene Gamba: *Computational issues for the Vlasov-Poisson/Maxwell Landau systems for plasmas*

10:15–11:05 James Rossmanith: *A simple and effective limiter for DG-FEM with application to a micro-macro decomposition of Boltzmann-BGK*

11:30–12:20 C. S. Chang: *Scalable kinetic hybrid particle-in-cell method combined with continuum grid*

12:30–12:45 Closing Remarks