

Computational Methods in Transport

Saturday September 11, 2004

- 3:30–6:00 *Registration*
- 6:00–8:00 *Dinner*
- 8:00–8:15 *Opening Talk*
- 8:00–8:30 **John Castor** (Lawrence Livermore National Laboratory)

Sunday September 12, 2004

- 8:00–8:30 *Review Talks (Mountain Lake Room)*
- 8:15–8:30 *Welcome and Opening Remarks*
- 8:30–9:30 **Warren Wiscombe** (NASA)

- 9:30–10:30 **David Levermore** (University of Maryland)
Transition Regime Models from Kinetic Equations
- 10:30–11:00 *Break*
- 11:00–12:00 **Ivan Hubeny** (University of Arizona)
Radiative Transfer in Astrophysical Applications
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:00 **Edward Larsen** (University of Michigan)
Neutron (and Photon) Transport for Nuclear Reactor Applications
- 3:00–4:00 **Barry Ganapol** (University of Arizona)
A Coupled Leaf/Canopy Turbid Medium Radiative Transfer Model
- 4:00–4:30 *Break*
- 4:30–5:30 **Marty Marinak** (Lawrence Livermore National Laboratory)
Simulations of High Energy Density Physics Experiments on Massively Parallel Architectures
- 6:00–8:00 *Dinner*



Monday September 13, 2004

- 8:00–8:30 *Atmospheric Physics/Oceanography/Plant Canopies (Mountain Lake Room)*
- 8:30–9:15 **Kuo-Nan Liou** (UCLA)
3D Radiative Transfer in Cloudy Atmospheres: Diffusion Approximation and Monte Carlo Simulation for Thermal Emission
- 9:15–10:00 **Frank Evans** (University of Colorado)
The Spherical Harmonics Discrete Ordinate Method for Atmospheric Radiative Transfer
- 10:00–10:30 *Break*
- 10:30–11:15 **Sasha Marshak** (NASA)
From simple plane-parallel to complex Monte Carlo calculations of solar fluxes and radiances for cloudy atmospheres
- 11:15–12:00 **Anthony Davis** (Los Alamos National Laboratory)
Effective Transport Kernels for Spatially Correlated Media - Application to the Cloudy Atmosphere
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:45 **Norm McCormick** (University of Washington)
Computer Challenges In Optical Oceanography
- 2:45–3:30 **George Kattawar** (Texas A&M University)
Stokes Vector-Mueller Matrix Radiative Transfer in an Atmosphere-Ocean System
- 3:30–4:15 **Jean-Luc Widlowski** (Joint Research Center)
Vertical and horizontal transport of solar radiation in structurally heterogeneous canopies: issues and caveats
- 4:15–4:30 *Break*
- 4:30–5:30 *Panel Discussion*
- 6:00–8:00 *Dinner*

Tuesday September 14, 2004

- 8:00–8:30 *Mathematics (Mountain Lake Room)*
- 8:30–9:15 **Barna Bihari** (Lawrence Livermore National Laboratory)
High Order Finite Volume Nonlinear Schemes for the Boltzmann Transport Equation
- 9:15–10:00 **Guillaume Bal** (Columbia University)
Generalized diffusion models for transport in scattering and non-scattering regions
- 10:00–10:30 *Break*

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- 10:30–11:15 **Shi Jin** (University of Wisconsin)
Computations of Multivalued Solutions of Nonlinear PDEs
- 11:15–12:00 **Rashit Shagaliev** (VNIIEF)
Finite-Difference Methods For Solving Multidimensional Time-Dependent Transport Problems Implemented In SATURN Package
- 12:00–2:00 *Lunch (on your own)*
- 2:00–5:00 *Poster Session*
- 6:00–8:00 *Dinner*

Wednesday September 15, 2004

- 8:00–8:30 *Neutron Transport/Astrophysics/High Energy Density Physics (Mountain Lake Room)*
- 8:30–9:15 **Marvin Adams** (Texas A&M University)
Neutron Transport in Nuclear Reactors
- 9:15–10:00 **Richard Procassini** (Lawrence Livermore National Laboratory)
Design, Implementation and Optimization of a Parallel Monte Carlo Particle Transport Code
- 10:00–10:30 *Break*
- 10:30–11:15 **Tony Mezzacappa** (Oak Ridge National Laboratory)
Neutrino Transport in Core Collapse Supernovae
- 11:15–12:00 **Doug Swesty** (State University of New York, Stony Brook)
Solving the Time-dependent Discrete-ordinates Boltzmann equation on Parallel Architectures
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:45 **Michael Norman** (University of California at San Diego)
- 2:45–3:30 **Jim Morel** (Los Alamos National Laboratory)
Discrete-Ordinates Methods for Radiative Transfer in the Non-Relativistic Stellar Regime
- 3:30–4:00 *Break*
- 4:00–4:45 **Todd Urbatsch** (Los Alamos National Laboratory)
The Jayenne Implicit Monte Carlo Project:
- 4:45–5:30 **Paul Nowak** (Lawrence Livermore National Laboratory)
- 6:00–8:00 *Dinner*

Thursday September 16, 2004

- 8:00–8:30 *Summary (Mountain Lake Room)*
- 8:30–8:50 **Thomas Abel** (Pennsylvania State University)
Summary I
- 8:50–9:10 **Doug Swesty** (State University of New York, Stony Brook)
Summary II
- 9:10–9:30
TBA
- 9:30–9:50 **David Levermore** (University of Maryland)
Summary IV
- 9:50–10:30 *Panel Discussion*
- 10:30–11:00 *Break*
- 11:00–11:30 *Closing Comments: Frank Graziani (LLNL) and Allon Percus (IPAM)*
- 12:00–2:00 *Lunch (on your own)*

