Workshop on Transport Schemes on the Sphere  
March 30-31, 2011  
Damon Room, Mesa Laboratory  
National Center for Atmospheric Research (NCAR) – Boulder, Colorado

Wednesday March 30, 2011 (regular lat-lon grids)

7:30 Shuttle departs Best Western Golden Buff Lodge (1725 28th Street) for Mesa Lab

8:00 Continental breakfast

9:00 Lauritzen (NCAR): Welcome and overview of test case suite

9:30 Kent (UMICH\(^1\)): Lin and Rood finite volume scheme in CAM

10:00 Juang (NOAA): Test 2D passive tracer transport by NCEP NDSL advection

10:30 Break with refreshments

11:00 Calhoun (BSU\(^2\)): Finite volume wave propagation algorithm of LeVeque on the sphere

11:30 Prather (UC Irvine): Transport on a Sphere by Conservation of Second-Order Moments (SOM)

12:15 Lunch

1:30 Li (Chinese Academy of Sciences): Trajectory-Tracking Scheme in Lagrangian Form for Solving Linear Advection Problems

2:00 Bosler (UMICH\(^1\)): A Lagrangian Particle Method for Scalar Transport on the Sphere

2:30 Enomoto (JAMSTEC\(^3\)) - Advection of smooth and non-smooth tracers with spectral bicubic interpolation

3:00 Break with refreshments

3:40 Müller (Forschungszentrum Jülich, Germany): Diabatic versus kinematic vertical velocities

4:00 General discussion on test case suite for development of transport schemes on the sphere

5:00 Shuttle departs for Best Western Golden Buff Lodge

6:30 Casual dinner in town at Turley’s (2805 Pearl St)

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\(^1\) University of Michigan  
\(^2\) Boise State University  
\(^3\) Japan Agency for Marine-Earth Science and Technology, Japan
Thursday March 31, 2011 (cubed-sphere grids)

7:30   Shuttle departs Best Western Golden Buff Lodge (1725 28th Street) for Mesa Lab

8:00   Continental breakfast

8:45   Lauritzen (NCAR): Conservative Semi-Lagrangian Multi-tracer transport scheme (CSLAM): Lagrangian, Rigorous Flux-Form & Simplified Flux-Form version

9:00   Ullrich (UMICH¹): Finite-Volume Methods for Tracer Transport

9:30   Guba (SNL⁴): Local extrema diminishing advection for high-order finite element methods

10:00  White (NCAR): High-Performance Semi-Lagrangian Tracer Transport for High Spatial Resolution at Fixed Time Steps

10:30  Break with refreshments

11:00  Andronova (UMICH¹): A Tracer Transport Model Test using a Finite-Volume Model with a Vertical Lagrangian Coordinate

11:30  Kaas (KU⁵): A Hybrid Eulerian Lagrangian numerical integration on the cubed sphere

12:15  Lunch

(icosahedral/Voronoi grids)

1:30   Reinert (DWD⁶): Flux-form semi-Lagrangian transport on icosahedral-triangular grids

2:00   Dubey (LMD⁷): Positive advection schemes for icosahedral-hexagonal grids

2:30   Skamarock (NCAR): Conservative Transport Schemes for Spherical Geodesic Grids using Runge-Kutta Time Integration

3:00   Break with refreshments

3:30   General discussion and wrap-up

5:00   Shuttle departs Mesa Lab for Best Western Golden Buff Lodge

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¹ Sandia National Laboratories
² University of Copenhagen, Denmark
³ Deutscher Wetterdienst, Germany
⁴ Laboratoire de Météorologie Dynamique, France