Compass 2009 all hands meeting

Advanced Accelerators (AA) agenda
Monday 1:00 pm to 5:30 pm

Includes 'welcome' and coffee break

Session I: Mid- to Long-term modeling needs for DOE/HEP applications (40 minutes)

       FACET and beam-driven e-/e+ collider concepts
       15 minutes (10+5), Huang, LANL

       Bella and laser-driven e-/e+ collider concept
       15 minutes (10 + 5), Geddes, LBL

       Needs for other LWFA concepts and experiments
       10 minutes (7+3) Mori, UCLA

Session II: Recent physics results and near-term plans (75 minutes)

       Shaping the plasma wakefield & Colliding pulse injection
       20 minutes (15 plus 5), Cormier-Michel, LBL

       Fluid representation of the plasma for LWFA
       10 minutes (7 plus 3), Bruhwiler, Tech-X

       Modeling narrow trailing beams and ion motion
       15 minutes (10 plus 5), Huang, LANL

       Ionization induced self-trapping
       15 minutes (10 plus 5), Mori, UCLA

       Investigation of LWFA scenarios using boosted frame technique
       15 minutes (10+5) Mori, UCLA

Session III: Algorithmic developments (60 minutes)

       Boosted-frame LWFA simulations using OSIRIS
       15 minutes (10 plus 5) Mori, UCLA

       Improvements in the laser envelope model
       15 minutes (10 plus 5), Cowan, Tech-X

       Boosted-frame LWFA simulations
       15 minutes (10 plus 5), Vay, LBL

Improved pipelining and domain decomposition in QuickPIC
15 minutes (10 plus 5), Huang

Session IV: Single-core performance, scaling to 100,000 cores (40 minutes)

Particle data structures, fine tuning VORPAL
15 minutes (10 plus 5), Amyx, Tech-X

A PIC algorithm for GPUs
15 minutes (10 plus 5), Decyk (recorded), UCLA

Progress in OSIRIS performance
15 minutes (10 plus 5), Mori, UCLA

Session V: General Discussion (30 minutes)