What's up at Tech-X

August 4, 2011

Nimdevel status and plans

- Nightly tests are running on iter (64-bit linux)
  - Still need to add parallel tests
  - Still need to run on more machines (SnowLeopard and Lion coming soon)
- Up-to-date on pre-built binaries at NERSC
  - If you want to build yourself using bilder, make sure to use the "-k" option to mknimall-default.sh
- Merge with nimlite (U. Washington) is planned
  - Preprocessing capabilities will be going into a separate repo and made as a library
  - Differences in surface integrals are handled at compile time (via ifdefs)
  - Milroy and Kim are developing regression tests that need to pass first
- High on my NIMROD ToDo list:
  - Bug found in logic for wall boundary conditions for loop voltage cases
  - Finish adding itg tests
  - Resistive wall

NIMROD-related gossip

- Jake King will be joining Tech-X Oct. 1 or slightly sooner
  - RW/RMP in conjunction with ELMs
  - Drift-tearing in tokamaks in conjunction with Tom
- New solicitation came out yesterday for some SciDAC renewals. 3 topics:
  - Materials SciDAC (new)
  - Edge (CPES renewal)
  - WDM (FACETS/SWIM merging – "SWACETS")

    Proposals are solicited for the development and application of advanced integrated simulation codes focusing on the prediction, control, and mitigation of performance-limiting or integrity-threatening instabilities and other off-normal events in tokamak plasmas, including sawteeth, Resistive Wall Modes, Tearing Modes, Neoclassical Tearing Modes, and instabilities leading to plasma disruptions. …
  - NIMROD still has a role in renewal proposal
- IR&D project at Tech-X: Ben Jamroz
  - Linear eigenvalue solver using SLEPc (based on PETSc)
  - Similar to work by Lodestar and GYRO although both of those efforts did not include compressional Alfven waves in spectrum
  - Based on previous JFNK development