Abstract Submitted
for the DPP00 Meeting of
The American Physical Society

Sorting Category: 6.6.2

A Linux PC Cluster for Between-Pulse EFIT and Other CPU Bound Analyses at DIII-D[1] Q. PENG, L.L. LAO, J. SCHACHTER, D.P. SCHISSEL, Schissel — A 12-processor PC Linux cluster, STAR, has been installed to perform between-pulse magnetic equilibrium reconstructions using the EFIT code written in Fortran. The MPICH package implementing Message Passing Interface is employed by EFIT for data distribution and communication. The new system calculates equilibria eight times faster than the previous system yielding a complete equilibrium time-history on a 25 ms time-scale four minutes after the pulse ends. A graphical interface is provided for users to control the time resolution and the type of EFITs. The next analysis to benefit from the cluster will be CERQUICK written in IDL for charge exchange recombination analysis. The plan is to expand the cluster so that a full profile analysis (T_e, T_i, n_e, V_r, Z_{eff}) will be available between pulses, which lays the groundwork for Kinetic EFIT or ONETWO transport analyses. The poster will present the description of the cluster and detail of the between-pulse EFIT and the future plans.

[1]Work supported by U.S. DOE Contract DE-AC03-99ER54463.

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☐ Prefer Oral Session
☒ Prefer Poster Session

Special instructions: Data Analysis, immediately following JR Burruss

Date submitted: July 12, 2000 Electronic form version 1.4