

Performance and Experiences on Porting XGC to the Cray X1E and XT3

by

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XGC is a massively parallel Monte Carlo particle-in-cell (PIC) code designed to model plasma in the edge region of large tokamaks such as the International Thermonuclear Experimental Reactor (ITER). XGC will be enhanced in the SciDAC Center for Plasma Edge Simulation (CPES) to investigate electromagnetic microturbulence and transport. We report on our initial experiences in porting XGC to the Cray X1E vector architecture and XT3 opteron cluster and the resulting performance.

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