

Abstract Submitted
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Progress in the SciDAC FSP Prototype Center for Plasma Edge Simulation (CPES)¹ C.S. CHANG, New York University, and the CPES Team — The present status of and the future plans for the SciDAC FSP Prototype Center for Plasma Edge Simulation (CPES) will be reported. The full-f XGC1 gyrokinetic edge turbulence code evaluates 5D edge turbulence in realistic tokamak geometry, with the inner boundary pushed all the way to the magnetic axis to study edge pedestal effect on core turbulence. Full-f XGC0 is a kinetic-based transport modeling code in realistic 3D magnetic geometry, which is designed to predict plasma transport behavior on experimental time scale, in integration with MHD codes to include large scale instability events (such as ELMs) on plasma profile evolution. DEGAS2 code is integrated into XGC for higher fidelity neutral transport. The code integration is achieved by computer science means on EFFIS framework (End-to-end Framework for Fusion Integrated Simulation).

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