Abstract Submitted
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The FACETS project: integrated core-edge-wall modeling with concurrent execution J.R. CARY, Tech-X Corp., S. BALAY, ANL, J. CANDY, Gen Atomics, J.A. CARLSSON, Tech-X, R.H. COHEN, T. EPPERLY, LLNL, D.J. ESTEP, Colorado State U, M.R. FAHEY, ORNL, R.J. GROEBNER, Gen Atomics, A.H. HAKIM, Tech-X, G.W. HAMMETT, K. INDIRESHKUMAR, PPPL, S.E. KRUGER, Tech-X, A.D. MALONEY, ParaTools, D.C. MCCUNE, PPPL, L. MCINNES, ANL, A. MORRIS, ParaTools, A. PANKIN, Lehigh U, A. PLETZER, Tech-X, A. PIGAROV, UCSD, T.D. ROGNLIEN, LLNL, S. SHASHARINA, Tech-X, S. SHENDE, ParaTools, S. VADLAMANI, Tech-X, H. ZHANG, ANL, FACETS TEAM[1] — The multi-institutional FACETS project has the physics goals of using computation to understand of how a consistent, coupled core-edge-wall plasma evolves, including energy flow, particle recycling, and the variation of power density on divertor plates with plasma under different conditions. FACETS is being developed to take advantage of Leadership Class Facilities (LCFs), while still being able to run on laptops with reduced fidelity models. This presentation will provide a high-level overview of the project, discussing the issues of componentization, solvers, performance monitoring, testing, visualization and first physics results for core-edge coupling.

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