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Latest results from coupled core-edge simulations of pedestal buildup in the DIII-D tokamak using the FACETS code AMMAR HAKIM, ALEXANDER PLETZER, Tech-X Corporation, ROBERT BUDNY, Princeton Plasma Physics Labratory, JOHN CARY, Tech-X Corporation, RICHARD GROEBNER, General Atomics, SCOTT KRUGER, Tech-X Corporation, THOMAS ROGNLIEN, Lawrence Livermore National Labratory, SRINATH VADLAMANI, Tech-X Corporation — We present simulations of H-mode pedestal buildup in the DIII-D tokamak using the FACETS code with particular emphasis on the ELM free regions of shots 98889, 118897 and 140417. The core region of the tokamak is simulated using a parallel, nested-iteration based core solver using a combination of anomalous (GLF23, MMM95 or TGLF model) and neoclassical (NCLASS or Chang-Hinton) fluxes. Sources are provided from either NUBEAM simulations or from interpretive ONETWO calculations. Magnetic equilibrium is taken from an experimental reconstruction and is held fixed or varied kinematically during the simulation. The edge region of the tokamak is simulated using the fluid code UEDGE. The transport coefficients used in UEDGE are held constant in time but are allowed to vary spatially. Coupling is achieved by exchanging fluxes and values at the core-edge interface. Electron and ion temperatures and plasma density are evolved and compared to experimental results.

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