

Abstract Submitted
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Hybrid Diverter Sheath Model JOHN VERBONCOEUR, JEFF HAMMEL, University of California at Berkeley, Berkeley, CA 94720 USA — The plasma sheath near the diverter plate of a fusion device is modeled using a particle-fluid hybrid model. Electrons are modeled as an inertia-less (Boltzmann) fluid with conservation of charge enforced by a time-dependent flux balance at the walls for a Maxwellian distribution at a specified temperature. Flux flows in from the edge plasma, and out at the diverter and also in the upstream direction. Ions are modeled using the PIC methodology. Parameters for the run are taken from the UEDGE gyrokinetic code. The modeling methodology for the iterative nonlinear solver is presented. The hybrid model is compared to full PIC runs and runs with a fixed ion background using a similar parameter regime as well as results from the UEDGE code.

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