**A Sensitivity Analysis of SOLPS Plasma Detachment**[1] D.L.
GREEN, J.M. CANIK, ORNL, D. ELDON, PPPL, O. MENEGHINI, General Atom-
ics, ATOM SCIDAC COLLABORATION — Predicting the scrape off layer plasma
conditions required for the ITER plasma to achieve detachment is an important
issue when considering divertor heat load management options that are compatible
with desired core plasma operational scenarios. Given the complexity of the scrape
off layer, such predictions often rely on an integrated model of plasma transport
with many free parameters. However, the sensitivity of any given prediction to the
choices made by the modeler is often overlooked due to the logistical difficulties
in completing such a study. Here we utilize an OMFIT [1] workflow to enable a
sensitivity analysis of the midplane density at which detachment occurs within the
SOLPS [2] model. The workflow leverages the TaskFarmer technology developed
at NERSC to launch many instances of the SOLPS integrated model in parallel to
probe the high dimensional parameter space of SOLPS inputs. We examine both
predictive and interpretive models where the plasma diffusion coefficients are chosen
to match an empirical scaling for divertor heat flux width or experimental profiles
respectively. [1] O. Meneghini et al., Nucl. Fusion 55, 083008 (2015) [2] R. Schneider
et al., Contrib. Plasma Phys. 46: 3-191 (2006)

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