

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

SOLPS modeling of inter/intra-ELM W transport DIII-D A.C. SONTAG, E.A. UNTERBERG, J.M. CANIK, L.W. OWEN, ORNL, T. ABRAMS, GA, J. WATKINS, SNL — SOLPS will be used for interpretive modeling of SOL tungsten transport in DIII-D to determine the roles of the friction force and the ion temperature gradient force on impurity transport. Modeling will be performed comparing discharges with the outer strike point on each tungsten divertor ring. A gas source with the measured tungsten source rate is placed at the location of each ring in the model to simulate sputtering, allowing for individual rings to source for comparison to tracer isotope studies. Anomalous thermal and particle transport coefficients are adjusted to match the upstream deuterium profiles while impurities use the same transport coefficients. An outer midplane deposition probe provides additional data on the SOL tungsten density. ELM averaged pedestal profiles covering the last 20% of the ELM cycle are used to determine the inter-ELM transport, while individual pedestal profiles measured during the ELM cycle are used to examine intra-ELM tungsten transport. ELM resolved source flux measurements are used to model the intra-ELM transport.

Aaron Sontag
Oak Ridge National Lab

Date submitted: 14 Jul 2017

Electronic form version 1.4