

Abstract Submitted
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Overview of NSTX divertor and plasma-material interactions diagnosis and modeling¹ M.A. JAWORSKI, T. ABRAMS, R. KAITA, J. KALLMAN, H. KUGEL, B. LEBLANC, R. MAQUEDA, D. STOTLER, S. ZWEBEN, PPPL, E. FOLEY, F. LEVINTON, Nova Photonics, V. SURLA, UIUC, J.D. ELDER, U-Toronto, T.K. GRAY, R. MAINGI, A. MCLEAN, ORNL — The National Spherical Torus Experiment (NSTX) has recently upgraded the divertor floor with the Liquid Lithium Divertor(LLD) and a dense Langmuir probe array. The array consists of electrodes operated as triple- and single-Langmuir probes. The improved diagnostic coverage enables characterization of steady and transient SOL characteristics as well as the use of the interpretative code, OEDGE (Onion-skin-method, EIRENE, DIVIMP edge). As prelude to OEDGE runs, a simple 2-point model OSM is applied to the Langmuir probe data to extract perpendicular transport properties in the SOL for comparison with turbulence properties. The status of the NSTX SOL plasma characterization (steady and transient) with the probes and modeling efforts are presented. Supporting experiments characterizing the LLD material will also be described along with the implications toward future modeling.

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M.A. Jaworski
Princeton Plasma Physics Laboratory

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