

Abstract Submitted
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Comparison of Diverted Plasmas Incident on Liquid Lithium and Lithiated Molybdenum, and Graphite Surfaces* H.W. KUGEL, M.G. BELL, R. BELL, A. DIALLO, S. GERHARDT, M. JAWORSKI, R. KAITA, J. KALLMAN, B. LEBLANC, D. MANSFIELD, D. MUELLER, S. PAUL, A.L. ROQUEMORE, F. SCOTTI, C.H. SKINNER, J. TIMBERLAKE, L. ZAKHAROV, (PPPL), J.P. ALLAIN, B. HEIM, C. TAYLOR, (Purdue), A. MCLEAN, R. MAINGI, (ORNL), R. RAMAN, (UWa), S. SABBAGH, (Columbia), V. SOUKHANOVSKII, (LLNL) — NSTX 2010 experiments were conducted using a molybdenum Liquid Lithium Divertor (LLD) surface installed on the outer part of the lower divertor. This tested the effectiveness of maintaining the D retention properties of a static liquid lithium surface when refreshed by lithium to approximate a surface replenished with flowing liquid lithium. Lithium evaporators were used to deposit lithium on the LLD surface. Noteworthy improvements in plasma edge conditions were obtained, and work is in progress to determine the role of lithium surface impurities in affecting these and the previous lithiated graphite results. A row of molybdenum tiles was installed inboard of the LLD for 2011 experiments with both inner and outer strike points on lithiated molybdenum to allow investigation of lithium plasma facing issues encountered in the first testing of the LLD, and a comparison of diverted plasmas incident on lithiated Mo and graphite surfaces. *Work supported by USDOE Contract DE-AC02-09CH11466.

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