

Abstract Submitted  
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**Continuation of Lithium Aerosol Injection Experiments on NSTX**<sup>1</sup> D.K. MANSFIELD, A.L. ROQUEMORE, H. KUGEL, PPPL, R. MAINGI, ORNL, J. IRBY, MIT, Z. WANG, LANL, PPPL TEAM, ORNL COLLABORATION, MIT COLLABORATION, LLNL COLLABORATION — During the 2008 run campaign, a Li powder dropper was installed on NSTX that successfully injected up to 35 mg/s of Li aerosol into the SOL. Initial improvements in the plasma performance from these initial experiments warranted the installation of a second Li dropper for the 2009 campaign. Design improvements in the dropper have resulted in accurate control of the flux of Li powder injected. The improved duel-dropper system has injected lithium fluxes of from 30 - 140 mg/s. At the highest flux, plasmas of 950 kA with 6 MW off NBI auxiliary heating have been successfully operated. This flux corresponds to  $2.5 \times 10^6$  -  $5.8 \times 10^6$  aerosol particles/s and is stoichiometrically equivalent 80 - 187 Torr L/s of D2. Operation of the Li dropper and the effects of the Li aerosol on the plasma performance will be discussed.

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