Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

Improved NSTX Plasma Performance with Lithium Aerosol Injection[1] DENNIS MANSFIELD, LANE ROQUEMORE, HENRY KUGEL, PPPL, RAJESH MAINGI, ORNL, NSTX TEAM — Elemental lithium in the form of dry aerosol particles has been injected continuously into the scrape-off layer of NSTX discharges in an attempt to affect H-Mode performance by real-time wall conditioning. The average particle diameter was 44 microns and typical injection fluxes were in the range of 1 – 30 mg/sec. In all cases, the discharges were remarkably tolerant of this method of introducing lithium and plasma parameters were generally improved. However, especially significant reductions in OH flux consumption, ELMS amplitude and Dα emission were accompanied by an increase in plasma confinement when lithium injection began prior to the L-H transition.

[1]Work supported by USDOE Contract DE-AC02-76-CH0373

Dennis Mansfield
PPPL

Date submitted: 22 Jul 2008 Electronic form version 1.4