

Abstract Submitted
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Results of mobile dust studies in NSTX¹ A.L. ROQUEMORE, J. NICHOLS, W. DAVIS, D.K. MANSFIELD, C.H. SKINNER, D. ABOLAFIA, E. FEIBUSH, R. MAQUEDA, PPPL, R. SMIRNOV, A. YU. PIGAROV, UCSD, W. BOEGLIN, FIU, K. HARTZFELD, TRHS — Operational and safety concerns over the amount of intrinsic dust that will be generated in next-step tokamaks has initiated many avenues of dust studies. Mobile dust studies have been performed on NSTX by dropping pre-characterized Li and tungsten dust with mean diameter of $44\mu\text{m}$ and $10\mu\text{m}$, correspondingly, into the upper regions of the scrap-off layer. Two fast visible cameras separated spatially but viewing the same plasma region have been utilized to create 3-D trajectories of the dust tracks. It has been found that the Li and W particles are accelerated by the flows in the peripheral plasma, while the tungsten particles appear to penetrate deeper to the SOL before ablating away. The Li results have been used for validation of the DUSTT/UEDGE code and good agreement between measured and simulated trajectories was obtained. It was found that the amount of Li introduced can have a significant impact on the edge parameters. The Li and W trajectories will be presented and the impact of the dust on the plasma edge will be discussed.

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