Abstract Submitted
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Recent observations of dust particle behavior in the NSTX[1] W.U. BOEGLIN, FIU, A.L. ROQUEMORE, C.H. SKINNER, PPPL, R. MAQUEDA, Nova Photonics, N. NISHINO, Hiroshima University, A.YU. PIGAROV, R.D. SMIRNOV, S.I. KRASHENINNIKOV, UCSD — Highly mobile incandescent dust particles are routinely observed on NSTX using fast cameras operating in the visible region. Dust particle trajectories in both the main chamber as well as in the divertor region of NSTX have been derived using two fast cameras, each tracking the same particle from two different locations. A 3-D tracking code has been developed that uses the two-camera system to locate particles to within an accuracy of a few millimeters by correlating the position with monuments on the vessel walls. Velocities between 10-200 m/s have been measured in each region. We will also present the results of simulations on the dynamics of measured dust particles using the 3-D dust transport code (DUSTT). In matching experimental particle trajectories using DUSTT we adjusted the initial particle parameters (radius, birth point, etc) and used a plasma background calculated with UEDGE. Abnormal trajectories containing abrupt changes in direction and velocity will also be discussed.

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Werner Boeglin
FIU

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