

Abstract Submitted
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Trajectory Measurements on the Colorado Dust Accelerator Using a Dual Dust Coordinate Sensor¹ WILLIAM GOODE, TOBIN MUNSAT, University of Colorado, Boulder — The Dust Coordinate Sensor (DCS) is a dual detector instrument located on the beamline of the 3 MV hypervelocity Dust Accelerator at the Institute for Modeling Plasma, Atmospheres and Cosmic Dust (IMPACT) at the University of Colorado, Boulder. This instrument measures the three-dimensional trajectories of charged, hypervelocity (3-8 km/s), micron-sized dust particles while in flight by utilizing the image charge on grids of wire electrodes. The position measurements are matched by timestamp with separate measurements of charge and velocity for each launched dust particle. By measuring the trajectories, the points of impact coordinates on a target can be pinpointed to within a fraction of a millimeter. This new capability also provides opportunities for profiling the particle beam.

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