

Abstract Submitted
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Overview of the CCLDAS Dust Accelerator T. MUNSAT, A. COLLETTE, K. DRAKE, E. GRUN, M. HORANYI, S. KEMPF, A. MOCKER, P. NORTHWAY, A. SHU, Z. STERNOVSKY, E. THOMAS, University of Colorado, AND THE CCLDAS TEAM — The Colorado Center for Lunar Dust and Atmospheric Studies (CCLDAS) has completed the construction of a new dust accelerator facility. The 3 MV electrostatic linear accelerator features a 20-kV pre-accelerating dust source which launches positively charged particles into the primary beamline. The beam consists of well-focused and characterized dust particles in the size range of 0.1 to a few micrometers, and velocity range of 1 to 10's of km/s. The facility is used for impact experiments to study material damage characteristics, the production of secondary particles, plasma and neutrals, crater formation and film penetration studies, and for the testing and calibration of dedicated dust instruments. We present the technical details of the facility, its capabilities, our associated sample analysis tools, and the results of our recent campaign of impact and cratering experiments. Additionally, we discuss opportunities for the wider physics communities to use this new facility.

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