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Ejected particle size distributions from shocked Cerium targets¹ MARTIN SCHAUER, WILLIAM BUTTLER, Physics Division, Los Alamos National Laboratory, MICHAEL GROVER, Special Technologies Laboratory, Mission Support and Test Sevices, LLC, RUBEN MANZANARES, Physics Division, Los Alamos National Laboratory, JOHN MARTINEZ, DEREK SCHMIDT, Material Science Division, Los Alamos National Laboratory, GERALD STEVENS, WILLIAM TURLEY, Special Technologies Laboratory, Mission Support and Test Sevices, LLC — We report on the results of experiments to constrain the size distributions of particles ejected from shocked Cerium wafer surfaces into vacuum and various pressures of Helium and Deuterium gases by measuring the angular distribution of laser light scattered by the particles. These data are analyzed using the Mie solution to Maxwell's equations and assuming that the particle size distribution function is log normal thereby yielding a continuous record of the size distribution with time, or alternatively with ejected particle velocity, throughout the duration of each experiment.

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> Martin Schauer Los Alamos National Laboratory

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