

Abstract Submitted
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(U) The Effect of Initial Pressed Density on the Dynamic Densification Behavior of Brittle Granular Materials¹ TRAVIS VOORHEES, JUSTIN STEINER, Georgia Institute of Technology, D. ANTHONY FREDENBURG, Los Alamos National Laboratory, GREGORY KENNEDY, NARESH THADHANI, Georgia Institute of Technology — In this study, the effect of initial density (ρ_{00}) on the dynamic densification behavior of a brittle granular system, cerium dioxide (CeO_2), is investigated. Specifically, the consolidation behavior of pressed powder compacts at four initial pressed densities (33, 44, 55, & 62.5% TMD) is examined at densities within the compaction range via gas gun driven plate-on-plate impact. The shock Hugoniot data collected from these experiments are presented and used to calibrate P- α model parameters. The dependency of these P- α model parameters on initial density are presented and discussed.

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