

Abstract Submitted
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Comparing CTH Simulations and Experiments on Explosively Loaded Rings C.H. BRAITHWAITE, Fracture and Shock Physics, SMF Group, Cavendish Laboratory, JJ Thomson , B. AYDELOTTE, N.N. THADHANI, Georgia Institute of Technology, Materials Science and Engineering, 771 Ferst Drive, N.W., Atlanta, GA, 30332-0245, D.M. WILLIAMSON, Fracture and Shock Physics, SMF Group, Cavendish Laboratory, JJ Thomson Ave., Cambridge, CB3 0HE, United Kingdom — A series of experiments were conducted on explosively loaded rings for the purpose of studying fragmentation. In addition to the collection of fragments for analysis, the radial velocity of the expanding ring was measured with PDV and the arrangement was imaged using a high speed camera. Both the ring material and the material used as the explosive container were altered and the results compared with simulations performed in CTH. Good agreement was found between the simulations and the experiments. The maximum radial velocity attained was approximately 450 m/s, which was achieved through loading with a 5g PETN based charge.

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