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Taylor Impact Of Ti-6Al-4V SAM MCDONALD, NEIL BOURNE, University of Manchester, GEORGE GRAY, Los Alamos National Laboratory, JEREMY MILLETT, GLENN WHITEMAN, AWE, Aldermaston — Over the past few years, a body of work has been performed to investigate the response of the titanium-based alloy, Ti-6Al-4V to one-dimensional shock loading. In this report, we take this work further including measurements of the shock response of the materials to one dimensional loading and by examining the behaviour of right cylinders of this alloy to high velocity impact onto a rigid surface with multiaxial loading. The results have been analyzed using a variety of techniques. In particular this work focuses on X-ray tomography that has been used to examine void formation immediately below the impact face due to interactions of releases, and other microstructural features from the cylinder edges.

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