

Abstract Submitted  
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**Geometry of Damage Cavities in Shock Loaded Tantalum** DAVIS  
TONKS, JOHN BINGERT, VERONICA LIVESCU, Los Alamos National Laboratory — Cavities of coalesced voids have been found in recovered samples of Tantalum in gas gun and high-explosive-driven experiments. The boundaries of these cavities are imprinted with details of the coalescence and void growth processes. One way of quantifying these details is to measure the roughness of the surfaces. In this work, we calculate the roughness of 2D cross sections of such cavity surfaces from micrographs by analyzing the images with the box counting technique. Both gas gun samples and explosively driven samples are treated. The cavities in the explosively driven samples appear rougher than those in the gas gun samples so we expect a larger roughness exponent for them. Possible reasons for the roughness differences will be discussed.

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