

Abstract Submitted
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Influence of Shockwave Profile on Ejection of Micron-Scale Material From Shocked Tin Surfaces MICHAEL ZELLNER, JIM HAMMERBERG, ROBERT HIXSON, RUSSEL OLSON, PAULO RIGG, Los Alamos National Lab, GERALD STEVENS, WILLIAM TURLEY, National Security Technologies, WILLIAM BUTTLER, Los Alamos National Lab — This effort investigates the relation between shock-pulse shape and the amount of micron-scale fragments ejected (ejecta) upon shock release at the metal/vacuum interface of shocked Sn targets. Two shock-pulse shapes are considered: a supported shock created by impacting a Sn target with a sabot that was accelerated using a powder gun; and an unsupported or triangular-shaped Taylor shockwave, created by detonation of high explosive that was press-fit to the front-side of the Sn target. Ejecta production at the back-side or free-side of the Sn coupons were characterized through use of piezoelectric pins, Asay foil, optical shadowgraphy, and X-ray attenuation.

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