

Abstract Submitted
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Shock Response of Bi-Metallic Layered Materials¹ J.D. MOLITORIS, A.E. GASH, R.G. GARZA, J.W. TRINGE, J.D. BATTEUX, B.M. WONG, Energetic Materials Center, Lawrence Livermore National Laboratory — Layered bi-metallic samples were placed in intimate contact with a high-explosive charge that was detonated to produce the transmitted shock. Using high-resolution radiography we obtained a set of images in time sequence detailing how the bi-metal responds. Fast optical imaging and pyrometry data were also taken. Complete data sets were obtained for Ni-Al and pure Al samples for direct comparison. As the experiments were designed for single-pass radiography, there are no interference effects. The data indicate that the shock promptly initiates the bi-metallic reaction and that the resulting alloy is not subsequently combusted. The experimental technique will be presented as well as results on Ni-Al and possibly other multi-layers.

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