

Abstract Submitted
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Stabilization of Wave Formation on a Contact Boundary of Metal Layers at an Oblique Impact during Kelvin - Helmholtz Instability Development OLEG DRENNOV, RFNC-VNIIEF — Plane metal layers loading by an oblique shock wave during explosive welding and various shields' effects on a contact boundary state after the loading were experimentally investigated. The stabilizing effect of thin metal coating on the explosive welding and disturbance evolution at a contact boundary was experimentally found. For example for copper – copper contact boundary disturbance amplitude is $a \approx 350 \mu\text{m}$. For contact boundary for the same pair, but under the loading through a zinc layer $\Delta \approx 22 \mu\text{m}$ thick, the disturbance amplitude decreased up to $a \approx 15 \mu\text{m}$. Thermophysical properties of a coating material affect the stabilization. The phenomenon of perturbation attenuation can be explained by the character of occurred hydrodynamic flow and complicated stress – strain state of substance.

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