

**MICROSCOPIC ELECTRON-OPTICAL RECORDING  
OF PARTICLE EJECTA FROM FREE SURFACE  
OF SHOCK-LOADED LEAD**

*N. V. Nevmerzhitsky, A.L. Mikhailov, V.A. Raevsky, V.S. Sasik, Yu.M. Makarov,  
E. A. Sotskov, A.V. Rudnev, V.V. Burtsev, S.A. Lobastov, A. A. Nikulin,  
E. D. Senkovsky, S.A. Abakumov, O. L. Krivonos, A.A. Polovnikov*

Russian Federal Nuclear Center  
All-Russia Research Institute  
of Experimental Physics

607190, Russia, Nizhni Novgorod reg., Sarov  
E-mail: root@gdd.vniief.ru

**Abstract**

**for the XII International Workshop on the Physics  
of Compressible Turbulent Mixing**

Russia, Moscow, July 12 – 17, 2010.

The authors present results of microscopic electron-optical recording of particle ejecta from free surface of shock-loaded lead, where the free surface has different roughness levels ( $Rz80$ ,  $Rz20$ ,  $Rz5$ ), after shock wave arrival to the surface at pressure of  $\approx 15$  GPa. The process was recorded by video camera through a system with relatively high optical magnification coefficient. Short laser pulse (4 ns) was used for illumination of the process. Lead particles with sizes of  $3 \mu\text{m}$  and more were recorded, and their spectrum was depicted.