Superconducting interfaces based on metals and their oxides obtained under shock compression conditions

Shakhray D $\mathbf{V}^{1,@}$ and Palnichenko A \mathbf{V}^2

¹ Institute of Problems of Chemical Physics of the Russian Academy of Sciences, Academician Semenov Avenue 1, Chernogolovka, Moscow Region 142432, Russia

² Institute of Solid State Physics of the Russian Academy of Sciences, Akademika Osipyana Street 2, Chernogolovka, Moscow Region 142432, Russia

[@] shakhray@icp.ac.ru

Since the discovery of superconductivity in tungsten bronzes these superconductors are attractive up to the present time, due to a relatively low density of electronic states at the Fermi surface and the highest temperatures of the superconducting transition. In this work we report on metastable superconductivity revealed by the *ac* magnetic susceptibility measurements of the mixture different metals such as Mg, Al and Cu and their oxides subjected to shockwave pressure about 170 kbar. The synthesized samples were characterized using a SQUID magnetometer and X-ray diffraction.