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Dynamic properties of bulk metallic glass on the base of Zr¹ IVAN SMIRNOV, SVETLANA ATROSHENKO, YURI SUDENKOV, NIKITA MOROZOV, St. Petersburg State University, WEI ZHENG, Harbin Institute of Technology, China, NATALIA NAUMOVA, St. Petersburg State University, JUN SHEN, Harbin Institute of Technology, China, RUSSIA-CHINA COLLABORATION — The high-strain-rate methods of materials were developed for dynamic strength investigations under micro- and sub-microsecond durations of shock loads on the base of electrical explosion of conductors. The experimental investigations of dynamic properties for bulk metallic glasses on the base of Ti and Zr under shock loads of sub-microsecond duration ~(0.5-0.7) μ s in the pressure range up to 12GPa were carried out. The values of HEL and spall strength for these amorphous alloys were received. The Hugoniot shock adiabat parameters were determined in the space U_{sh} - u_p . The results of microstructure analysis of saved specimens revealed essential differences in deformation mechanisms determining plastic flow in these alloys under high-strain-rate.

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Svetlana Atroshenko St. Petersburg State University

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