Crack-resistance and spall strength of cerium under dynamic loading. VICTOR PUSHKOV, VLADIMIR OGORODNIKOV, SERGEY ERUNOV, Russian Federal Nuclear Center-VNIIEF — There is poor knowledge on cerium characteristics under dynamic loading, such as dynamic crack-resistance and spall strength, which are important for some applications. For example, material crack-resistance is one of parameters of the model, which is used for numerical description of the dispersion process [1]. Tests were performed for determination of dynamic crack-resistance by the split Hopkinson pressure bar method. However, significant plasticity of cerium caused failure of crack-resistance determination. Therefore crack-resistance evaluation was performed by study of material spall strength $\sigma_0$. Considering value $\sigma_0$, it is possible to determine specific work for material break $\lambda$ [2], and, basing on it, then it is possible to determine crack-resistance value by the Irvine-Griffiths criterion.