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**Crack-resistance and spall strength of cerium under dynamic loading** VICTOR PUSHKOV, VLADIMIR OGORODNIKOV, SERGEY ERUNOV, Russian Federal Nuclear Center, VNIIEF — For cerium, a series of characteristics under static compression and tension and some other characteristics are known. At the same time, 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. In this work the crack-resistance evaluation was performed by study of material spall strength  $\sigma$ , determination of specific work for material break  $\lambda$ , and using the Irvine-Griffiths criterion. Loading of the samples by planar impactor was performed at ballistic impact tube BUT-76 and impactor velocity in the tests varied within 100-400 m/s. Profiles of samples free surface velocity  $W(t)$  recorded by laser interferometer in the tests. Cerium of the type TsE-0 was researched. It is observed that damage nucleation occurs in cerium through formation of voids.

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