Changing the sensitivity of an explosive by modifying the structure of the charge

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The study of the sensitivity of explosives and the methods of changing it is an urgent task of explosion physics. As is well known, with an increase in the number of inhomogeneities, for example, when grinding grains of explosives, the sensitivity can change significantly, and the nature of the change can even be non-monotonic. Thus, for explosives based on hexogen, an increase in shock-wave sensitivity is first observed during grinding, and with a further decrease in the grain size, a decrease [1]. The greatest susceptibility to changes in structure is observed for TNT. In this paper, the effect of carbon single-wall nanotubes added to a TNT charge on the characteristics during detonation is investigated. The study was supported by a grant from the Russian Science Foundation № 25-29-00042, https://rscf.ru/project/25-29-00042/.

[1] Stepanov V, Anglade V, Hummers V, Bezmelnitsyn A and Krasnoperov L 2011 *Propellants Explos. Pyrotech.* **36** 240–246