LASER INITIATION OF ENERGETIC COMPLEX COMPOUNDS OF SOME METALS

G. V. Melik-Gaykazov, G. P. Kuznetsov, and I. G. Assovskiy

N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation

Abstract: The goal of this work is an experimental study of the mechanism of short laser pulse excitation of explosion in optically homogeneous secondary explosives (SE) and searching of pure chemical methods to control the light sensitivity of SE (without using of optically dense additives). Implementation of the method of laser initiation is reduced to the optimization of composition and molecular structure of the explosives, along with the optimization of the laser pulse (its duration, energy density, and wavelength), taking into account the great variety of SE and conditions for their functioning, as well as the laser beam diameter, the beam divergence, and dynamics of the pulse power variation.

Keywords: energetic materials; energetic metallocomplexes; explosives; laser initiation; laser ablation; sensitivity to light

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Contributors

Melik-Gaykazov George V. (b. 1958) — Candidate of Science in physics and mathematics, research scientist, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; marsh@chph.ras.ru

Kuznetsov Gennadiy P. (b. 1947) — Candidate of Science in physics and mathematics, senior research scientist, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; kuznetsov-47@bk.ru

Assovskiy Igor G. (b. 1946) — Doctor of Science in physics and mathematics, head of laboratory; N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; assov@chph.ras.ru