Numerical simulation of detonation propagation using the model of the Morozov–Karpenko kinetics in compositions based on conventional and nanostructured RDX

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Model experiments have been conducted to study the propagation
of detonation in channels with a small cross-section loaded with
nanostructured RDX (hexogen), obtained using the electron-optical
complex NANOGATE 2000 , which is based on a high-speed camera
NANOGATE 22 with a shooting frequency of up to 109 fps, used to
validate computational methods of the detonation wave propagation
process. Numerical modeling of detonation propagation in small
cross-section channels for compositions based on conventional and
nanostructured RDX has shown that it is possible to take into
account changes in the detonation capacity of the composition using
the model of the MK (Morozov–Karpenko) kinetics.