

# TWO-STEP HEAT RELEASE IN EXPLOSIVES AND LOW- VELOCITY DETONATIONS

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***Abstract:** The experimental examples of two-step nonmonotonous heat release in solid, two-phase and gaseous explosive mixtures are reviewed with a focus on low-velocity detonations and secondary compression and shock waves induced by a delayed heat release. Results of numerical simulations are shown for two-phase suspensions of aluminum particles in gaseous explosives and for gaseous explosive mixtures with N<sub>2</sub>O<sub>4</sub> as an oxidizer. In these cases the transition from low- to normal detonation happens smoothly rather than abruptly.*

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