End-to-end calculation of thermomechanical phenomena in a solid with dynamic control of the aggregate state

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A complex computer model of thermomechanical phenomena in a solid deformable material as a result of the action of intense energy fluxes was constructed [1]. An algorithm has been developed for the end-to-end calculation of heating, evaporation, dynamics of vaporized matter and elastic-plastic wave processes leading to destruction in a solid material. A method for dynamic control of changes in the aggregate state of a condensed medium was proposed. Calculations of the destruction of polymer and composite materials under the action of ionizing radiation were carried out.
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