

PROPAGATION OF A HETEROGENEOUS DETONATION WAVE IN A CHANNEL WITH EXPANSION

A. V. Fedorov, T. A. Khmel, and S. A. Lavruk

S. A. Khristianovich Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 4/1 Institutskaya Str., Novosibirsk 630090, Russian Federation

Abstract: The propagation of a heterogeneous detonation wave in a stoichiometric mixture of aluminum particles and oxygen in a plane channel with linear expansion is investigated numerically. The angle of inclination of the wall to the axis of symmetry is varied in the range from 15° to 60° . The main flow regimes: subcritical, critical and supercritical are described and the maps of detonation regimes are constructed. The data obtained are compared with similar results for channels with a backward step.

Keywords: aluminum gas suspensions; detonation; channel with expansion

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Contributors

Fedorov Alexander V. (b. 1946) — Doctor of Science in physics and mathematics, head of laboratory, S. A. Khristianovich Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 4/1 Institutskaya Str., Novosibirsk 630090, Russian Federation; fedorov@itam.nsc.ru

Khmel Tatyana A. (b. 1956) — Doctor of Science in physics and mathematics, leading research scientist, S. A. Khristianovich Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 4/1 Institutskaya Str., Novosibirsk 630090, Russian Federation; khmel@itam.nsc.ru

Lavruk Sergey A. (b. 1991) — PhD student, S. A. Khristianovich Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 4/1 Institutskaya Str., Novosibirsk 630090, Russian Federation; lavruks@mail.ru