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Numerical simulation of turbulent stage of Richtmyer-Meshkov instability with multishock interaction

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In present work the investigation of Richtmyer-Meshkov instability development is fulfilled under the experiment [1] conditions. The calculations were carried out by means of an original parallel hydrodynamic code.

A good agreement of experimental and calculated dynamics of a turbulent mixing zone growth was obtained. An analysis of an influence of initial perturbations and comparison of experimental and computation intensity of velocity pulsation was fulfilled. The spectral characteristics of an arising turbulent flow are presented also.

Reference

[1] F.Poggi, M.-H.Thorembey, G.Rodriguez. Velocity measurements in turbulent gaseous mixtures induced by Richtmyer-Meshkov instability. // Physics of Fluids, 1998, Vol.10, No.11, pp.2698-2700.