EVOLUTION OF PARTICLE FLOW FORMED AS A RESULT OF SHOCK LOADING OF METALS IN GAS MEDIUM

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The work presents an analysis of experiments carried out using synchrotron radiation and pulse radiography to record the process of particle ejection from the free surface of liquid metal into a low-density medium (rarefied gas, xenon, helium) after the impact of the shock wave on this surface [1, 2]. The results of new experiments using synchrotron radiation to record the ejection of tin particles into nitrogen at different pressure are also presented. Numerical modelling of experiments was carried out using a model of particle flow evolution in a gas medium [3]. Satisfactory agreement of the results of numerical modelling with experiments is shown. A predictive ability of the model associated with changes in size spectrum over time is demonstrated.

References

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