

COAGULATION OF NANOPARTICLES IN A PLASMA JET

Contact Phone

Abstract

The dynamics and coagulation of nanoparticles in a plasma jet expanding through a round hole into a dilute gas are simulated. A hydrodynamic approach is used to describe the plasma movement in a two-dimensional axisymmetric model, which consists of the equations of continuity, momentum and energy equations for all plasma components. Coagulation and charging of nanoparticles in plasma are described in the framework of the sectional model. It is shown that due to coagulation in the jet appear dust particles of larger radii. The maximum concentrations of these particles are at some distance from the inlet.

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Primary authors: Dr KRAVCHENKO, Oleksandr (Taras Shevchenko National University of Kyiv); Mr MARUSCHAK, Ivan (Taras Shevchenko National University of Kyiv)

Presenter: Dr KRAVCHENKO, Oleksandr (Taras Shevchenko National University of Kyiv)

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