INVESTIGATION OF THE PULSED PLASMA FLOW, GENERATED IN NON-CYLINDRICAL Z-PINCH SYSTEMS, BY ELECTRON-OPTICAL METHODS

S.S. Ananyev, S.A. Dan'ko, Yu.G. Kalinin, V.I. Krauz, V.V. Mylton, A.M. Kharrasov

NRC «Kurchatov institute», Moscow, Russia

Recently there has been a significant growth of interest to the plasma flows generated in the Z-pinch systems. This is connected with understanding of the important role of the processes leading to generate flows, in general physics of formation and dynamics of the pinch, and increasing the applications of these flows. The paper describes a system of slit electronic-optical photography in visible range, designed for monitoring the spread of pulsed plasma flows caused by compression of a Z-pinch. Experiments were carried out on PF-3 facility, the largest in the world among representatives of one of the varieties of Z-pinch systems—the plasma focus. The first results of measurements of the plasma flows velocities using different working gases (hydrogen, neon, argon) are presented. The structuredness of the plasma flows is shown. No significant dependence of the flow velocity on the sort of the working gas was revealed.

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