Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

Analysis of dynamic states of discharge channels between plasma jets in AC electric arc TOMASZ DASZKIEWICZ, Department of Electrical Apparatus, Technical University of Lodz — The article presents the results of the 3-D simulation of discharge channel displacement during one half-period of AC electric arc at Im=500A and Im=80A with the Fluent program indicate that the obtained pictures of the phenomenon are qualitatively similar to the pictures recorded with an high-speed digital camera Photron, and the computer simulation enables much more comprehensive analysis of the phenomenon. In addition to the selected frames of arc simulation and the corresponding distributions of temperature and current density vectors on a plane, the distributions of temperature, current density and matter velocity values on the axis of the electrode arrangement model are presented. The composite motion (continuous and jumping) of discharge channels was analyzed taking into account the displacement of mass and changes of matter states.

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Date submitted: 19 Apr 2010 Electronic form version 1.4