

GENERATION OF PLASMA FLOWS WITH A HIGH CONTENT OF METAL PARTICLES IN ATMOSPHERIC PRESSURE GLOW DISCHARGE *

K.P. SAVKIN¹, D.A. SOROKIN¹, E.M. OKS^{1,2}, A.G. NIKOLAEV¹, M.V. SHANDRIKOV¹, A.S. BUGAEV¹, V.I. GUSHENETS¹

¹Institute of High Current Electronics SB RAS, Tomsk, Russia

²Tomsk State University of Control System and Radioelectronics, Tomsk, Russia

The paper presents the results of studying the features of the operation of an atmospheric pressure glow discharge at currents below the threshold for switching to the arc mode, but providing efficient generation of plasma flows with a high content of the metal component. The limitation of the discharge current is due to the desire to improve the quality of the erosion products of the electrodes of the discharge system by reducing the geometric dimensions of their particles in order to achieve ultrafine properties of powder materials obtained under atmospheric pressure conditions.

* The research was supported by RSF (project No. 22-19-00265).