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**Kinetic simulation of ignition in micro-cathode vacuum thruster model** IRINA SCHWEIGERT, MICHAEL KEIDAR, George Washington University — The miniature pulse thrusters with vacuum arc developed by George Washington University are a promising type of thruster already used in several missions (see, for example [1]). In this work, in 2D3V PIC MCC simulations, the ignition of discharge in the simplified model of micro-cathode vacuum arc thruster was studied for the setup and conditions of the experiment [2]. In our kinetic simulations, as in the experiment, the model thruster consists of rectangular metal cathode (Ti) and anode (Cu) with 4 cm length and 0.5 cm thickness placed on alumina ceramic substrate. In simulations, the surface condition of alumina is set in terms of secondary electron emission yield. The effects of variations of the gap between electrodes, gas pressure and magnetic field strength on the model thruster operation are analyzed. [1]. Hurley S, Teel G, Lukas J, Haque S, Keidar M, Dinelli C and Kang J 2016 Trans. Japan Soc. Aeronaut. Space Sci. Aerosp. Technol. Japan 14 Pb157–Pb163 [2]. D B Zolotukhin and M Keidar 2018 *Plasma Sources Sci. Technol.* **27** 074001

Irina Schweigert  
George Washington University

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