

Abstract Submitted
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Spatiotemporal development of low-pressure low-current discharges in argon DRAGANA MARIĆ, ZORAN PETROVIĆ, Institute of Physics, POB 68, 11080 Zemun, Belgrade, Serbia and Montenegro — We present analysis of time and space resolved development of low-pressure, low-current discharges in argon. We detect light emission by an intensified charge coupled device (ICCD) camera and support those recordings by voltage-current measurements. The goal was to extend the knowledge of kinetics of formation and maintenance of different modes of discharge – low current diffuse Townsend discharge, constricted normal glow and abnormal glow discharge. We have performed measurements at $pd = 150$ Pa·cm and 45 Pa·cm. Special care was taken in recording of the spatiotemporal development of discharge oscillations and constrictions. The development of glow and abnormal glow discharges was recorded in 2 dimensions, revealing radial dependence of the discharge and showing radial development of constrictions. During oscillations at low currents there are both axial and radial oscillations of the ionized gas.

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