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Influence of voltage pulse duration on ignition of glow discharge in air V.A. LISOVSKIY, P.P. PLATONOV, S.V. DUDIN, V.N. Karazin Kharkiv National University — The effect of the duty cycle coefficient on the pulsed discharge ignition in air has been studied in experiment. It has been found that the highest breakdown voltage values are required for igniting the discharge with short pulses possessing moderate values of the duty cycle coefficient D. On increasing the pulse duration the strongest changes of the breakdown voltage are observed at low gas pressure to the left of the breakdown curve minimum. With the D quantity growing and the gas pressure fixed the breakdown voltage first decreases and then it experiences saturation that corresponds to the breakdown in the constant (not pulsed) electric field (D = 1). In the region to the right of the breakdown curve the range of the breakdown voltage variation against the duty cycle narrows.

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