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Parameters of atmospheric plasmas produced by electrosurgical devices MICHAEL KEIDAR, ALEXEY SHASHURIN, The George Washington University, JEROME CANADY, Jerome Canady Institute for Advanced Biological and Technical Sciences — Electrosurgical systems are extensively utilized in general surgery, surgical oncology, plastic and reconstructive surgery etc. In this work we study plasma parameters created by electrosurgical system SS-200E/Argon 2 of US Medical Innovations. The maximal length of the discharge plasma column at which the discharge can be sustained was determined as function of discharge power and argon flow rate. Electrical parameters including discharge current and voltage were measured. Recently proposed Rayleigh microwave scattering method for temporally resolved density measurements of small-size atmospheric plasmas was utilized. Simultaneously, evolution of plasma column was observed using intensified charge-coupled device (ICCD) camera.

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