Abstract Submitted
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Numerical simulations of an atmospheric pressure microplasma jet driven by tailored voltage waveforms[1] YUE LIU, THOMAS MUSSENBROCK, Brandenburg University of Technology Cottbus - Senftenberg, Germany, TORBEN HEMKE, IHOR KOROLOV, JULIAN SCHULZE, Ruhr University Bochum, Germany — Capacitive microplasma jets driven at atmospheric pressure by sinusoidal or particularly tailored voltage waveforms are employed as efficient plasma sources for surface modification and other processes. One special variant is the micro atmospheric pressure plasma jet (μAPPJ). In this contribution the characteristics of the μAPPJ driven by different voltage waveforms in a helium-oxygen mixture are studied by numerical simulations. The density and temperature of the electrons, as well as the concentration of all reactive species are studied in both the region between the electrodes and within the effluent, particularly with regard to the effect of different driving voltage waveforms.

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