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**PLASIMO model of micro-plasma jet for biomedical applications** DIANA MIHAILOVA, ANA SOBOTA, WOUTER GRAEF, JAN VAN DIJK, Eindhoven University of Technology, GERJAN HAGELAAR, CNRS, University of Toulouse — Non-equilibrium atmospheric pressure micro-plasma jets are widely studied for use in biotechnology, including treatment of human tissue. The setup under study consists of capillary powered electrode through which helium gas flows and a grounded ring electrode placed a distance of few mm in front of the capillary. The discharge is excited by sinusoidal voltage with amplitude of 2kV and 30KHz repetition rate. The plume emanating from the jet, or the plasma bullets, propagates through a Pyrex tube and the gas phase channel of helium into the surrounding air. aim of this work is to get insight into the plasma constituents that can affect directly or indirectly living tissue. This includes radicals (OH, NO, O<sub>2</sub>), ions and electrons, UV radiation, electrical fields. PLASIMO modelling toolkit is used to simulate the capillary plasma-jet in order to quantify the delivery of fluxes and fields to the treated tissue. Verification is made by comparing results obtained with the PLASIMO and MAGMA codes (developed at LAPLACE, Toulouse) for the same input specifications. Both models are validated by comparison with experimental observations at various operating parameters.

Diana Mihailova  
Eindhoven University of Technology

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