

Abstract Submitted
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Characterization of isolated and combined radical, photon, and ion effects of cold atmospheric plasmas on liquids¹ JAN BENEDIKT, KERSTIN SGONINA, Christian-Albrechts-University Kiel, GERT WILLEMS, MOHAMED MOKHTAR HEFNY, BEATRIX BISKUP, Ruhr-University Bochum, JUDITH GOLDA, Christian-Albrechts-University Kiel — Atmospheric non-equilibrium plasmas are an effective source of reactivity since they generate large densities of reactive radicals, metastables, ions and high fluxes of (V)UV photons. Especially important for therapeutic applications in plasma medicine is the fact that several or all of these components and electric fields are acting at the same time, very often in a synergistic way. Especially important for the understanding plasma effects is to obtain absolute fluxes of all plasma components to the surface and to study their isolated or combined effects. In this contribution, the mass spectrometry for detection of neutral and ionized species and the windowless VUV spectroscopy for the plasma analysis of the atmospheric plasma jet, which serves as a reference in several plasma medicine studies will be discussed in detail. Additionally, the way in which in isolated or combined effects of plasma-generated radicals, photons and even ions can be studied will be presented.

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