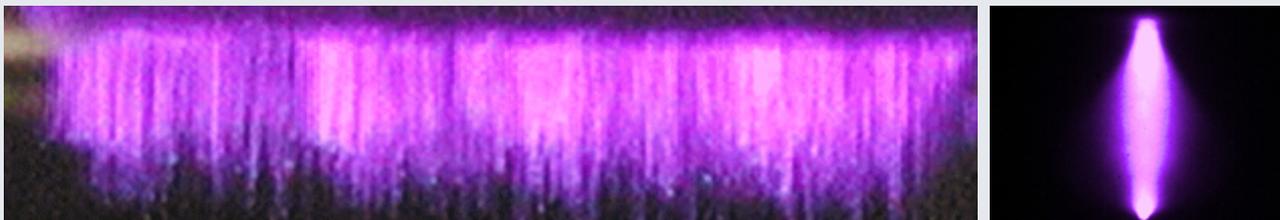


Elementary Reactivity and Analysis for Cold Plasmas

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The composition and time evolution of cold plasmas are driven by collisional processes implying neutrals and ions, for some part radical or excited species, for which products and efficiency are poorly characterized. The project ERACOP aims at developing emerging techniques to determine in a controlled way the elementary reactivity between these species on two instrumental setups at LCP. It also aims, beyond diagnostics by laser spectroscopy, to use an innovative high resolution mass spectrometry technique based on the PTR-FTICR method developed at LCP on transportable devices to analyze the compounds generated in cold plasmas, in particular plasmas studied at LPGP for decontamination of gaseous effluents (removal of VOCs and hydrocarbons). We are bringing together the skills of several teams for a better understanding of these complex media by identifying processes or species of importance for their stability and optimisation.



Atmospheric pressure air plasmas exhibiting different structures: filamentary in a dielectric barrier discharge (left) and more diffuse in a very high voltage corona discharge (right)

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