Measuring atomic radicals in atmospheric-pressure plasmas

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Atomic radicals such as O, H and N play an important role in many applications of atmospheric-pressure plasmas. Measuring these species directly, and in absolute densities, is challenging. Two-photon Absorption Laser Induced Fluorescence (TALIF) is introduced to measure time-resolved densities of O and H. However, for atomic radical monitoring in applications, TALIF is not suitable from a cost and optical access point of view. Advanced actinometry methods are developed for this purpose and benchmarked against TALIF measurements.