Optical Emission Spectroscopic Measurement of Atmospheric-Pressure Plasma by Continuum and Line Emissions with Collisional Radiative Model [Tentative]

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Many studies have been reported on the application of atmospheric pressure non-equilibrium plasma to a wide range of industrial fields. However, practical methods for measuring plasma parameters such as electron temperature T_e, electron density N_e, and particularly, electron energy distribution function (EEDF) have not yet been established. This presentation reports on optical emission spectroscopy (OES) method to estimate the EEDF from a continuum analysis based on the bremsstrahlung theory, a line-spectrum analysis using the collisional radiative model (CRM), and a hybrid analysis as CRM fitting with the exploratory range restricted by the continuum analysis.