

Laser-induced plasma spectroscopy for applications in analytical chemistry

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The generation of plasma has served well in diagnostics applicable to analytical chemistry. Laser-induced plasma shows various applications in determining species composition of materials, parameters such as electron density

and temperature, or dynamics of processes, to name a few research areas. Of particular interest are the characterization of hydrogen plasma and selected diatomic molecular spectra or 'fingerprints' that can be measured with temporally and spatially resolved emission spectroscopy. Recorded high-speed photography images particularly in gaseous environments are associated with spectral data sets by use of computed tomographic methods that include integral transforms of line-of-sight data.

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