

Abstract Submitted
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Mass- spectrometric Observations of Plasma-assisted Catalysis

DAVE SEYMOUR, ALAN REES, DAVID LUNDIE, Hiden Analytical, HIDDEN TEAM — Plasma discharges are known to facilitate the catalysis of reactive gas mixtures. A variety of plasmas, including surface barrier discharges, have been demonstrated to enhance the efficiency of the catalysts such as nickel/alumina or silver/alumina, used in conventional thermally-activated reactors. The observed improvements have included a lowering of the onset temperature at which the catalyst becomes effective, and an increase in the over-all efficiency of the process. A number of diagnostic methods have been employed to study the synergistic behaviour of plasmas and heated catalysts, the technique adopted often being specific to the monitoring of a particular reaction product. The work described here is aimed at demonstrating the versatility of mass-spectrometric methods in following the behaviour of typical plasma-assisted catalytic processes.

Dave Seymour
Hiden Analytical

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