

## **Diagnostics and modeling of glow discharges by time-resolved IR absorption spectroscopy**

**Abstract:** In this work, several applications of time resolved absorption spectroscopy, with different time scales and spectral resolutions, are described for the diagnostic and modeling of cold plasmas produced in square wave modulated hollow cathode discharges. These methods have revealed a very sensitive and efficient way to test the relevance of the different individual mechanisms, in comparison with the usual plasma diagnostic methods of the stationary state. (C) 2002 Elsevier Science Ltd. All rights reserved.