

Spectrometric and kinetic study of a modulated glow air discharge

Abstract: The transients associated with the ignition and extinction of the cold plasma produced in a low-frequency, square wave modulated, hollow cathode discharge of air are characterized by time resolved mass spectrometry and emission spectroscopy. The time evolution of the concentrations of neutral products measured in the discharge (NO, N₂O, N and O) is compared with the predictions of a simple kinetic model previously developed to characterize low-pressure plasmas of N₂O, NO and NO₂ and a good agreement is found