THE ROLES OF ATOMIC OXYGEN AND NITRIC OXIDE IN LOW TEMPERATURE PLASMAS

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Nitric oxide, NO, and oxygen, O, concentrations have been experimentally measured using one-photon and two-photon laser induced fluorescence, respectively, as a function of time after a nanosecond pulsed plasma discharge. The relative behavior of these two species is fundamentally different than that predicted using the extended Zeldovich Mechanism. A plasma chemistry kinetic model sensitivity analysis has been conducted to determine the dominate reactions involved. The spectra, concentrations, and kinetic modeling predictions will be discussed.