

After-glow in N₂ RF Flowing Plasma

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The vibrational distribution of N₂ (B, v') in after-glow in N₂ RF flowing plasma was investigated. The optical emission of the after-glow was studied as function of distance from plasma. In a tube 2.1 cm, the gas pressure varied 8 Torr with 1000sccm nitrogen gas flowing late. The discharges were excited by two ring-electrode powered by RF 13.56 MHz 100 Watt. N₂ (B, v') vibrational distribution was analyzed to see depends of position in after-glow. Dissociation rate of N₂ varied showing maximum in the late after-glow region. We studied N₂ RF capacitive flowing plasmas and afterglows by emission spectroscopy and by NO titration to determine the density of N-atoms.

Keywords: Afterglow, NO titration