

Abstract Submitted
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Optical Excitation Functions of N_2^{+1} AMANDA FRICKE, TIMOTHY GAY, University of Nebraska — Using a new apparatus designed to minimize systematic sources of error, we have measured the electron-impact optical excitation functions for the $B^2\Sigma_u^+ - X^2\Sigma_g^+$ 391.4nm transition in N_2^+ . Incident-electron energies ranged from 20-500 eV. By taking data at pressures less than 0.5 mTorr the possible effects of radiation trapping are significantly reduced. We compare our results with previously published data for this transition and find good agreement with them [1]. We discuss steps we have taken to ensure accurate normalization of photon count rates to both pressure and beam current, and discuss potential error in our results due to radiation trapping. [1] B.N. Srivastava and I.M. Mirza. Phys. Rev. **176**, 137 (1968).

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