Abstract Submitted
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Electron Impact Excitation of Molecular Nitrogen[1] MURTADHA A. KHAKOO, SHIYANG WANG, Cal State University Fullerton, CA 92834, CHARLES P. MALONE, PAUL V. JOHNSON, ISIK KANIK, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109 — We present differential cross-sections for electron impact excitation of the N_2 b,c,o $^1\Pi_u$ and b$'$,c$'$ $^1\Sigma_g^+$ from the $X^1\Sigma_g^+$ ground state at 17.5eV, 20eV, 30eV, 50eV and 100eV for scattering angles from 5° to 130°. The DCSs were obtained by unfolding the energy loss spectrum of N_2 taking into account Rydberg-valence mixing between these levels. These DCSs constitute the first systematic study of the high-lying states of N_2 of importance in plasma and astrophysics applications.

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