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Electron Impact Excitation of Molecular Nitrogen. PAUL V. JOHNSON, Jet Propulsion Laboratory, Caltech, CA 91109, MURTADHA A. KHAKOO, ISMAIL OZKAY, Cal State University, Fullerton, CA 92834, PATRICK YAN, Troy High School, Fullerton, CA 92831, SANDOR TRAJMAR, ISIK KANIK, Jet Propulsion Laboratory, Caltech, CA 91109 — New electron impact differential cross-sections for excitation of the lowest eight electronic states of molecular nitrogen will be presented. The data were obtained by unfolding high resolution electron energy loss spectra of molecular nitrogen using well-known Franck-Condon factors and normalized using our moveable source system[1] to the Time-of-Flight measurements of LeClair and Trajmar.[2] The data were taken at a large range of incident electron energies from near-threshold to 100eV and for scattering angles up to 130 degrees. Comparison to available experiments and theory is made.

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[1]Hughes et al., Meas. Sci. Technol. 14, 841 (2003).
[2]L. R. LeClair and S. Trajmar, J. Phys. B 29, 5543 (1996).

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