Laboratory Data Needed in Support of the FUSE (Far Ultraviolet Spectroscopic Explorer) Mission

Theodore P. Snow and J. Michael Shull
University of Colorado

Donald C. Morton
National Research Council of Canada

The *Far Ultraviolet Spectroscopic Explorer* (*FUSE*) will be launched within a few months. *FUSE* will obtain spectroscopic data in the wavelength interval from 912 to 1175Å with a nominal resolving power of $\lambda/\Delta\lambda$ = 30,000 on a wide variety of astronomical sources with far-UV flux levels in the range from 10^{-15} to 10^{-10} erg cm^{-2} s^{-1}Å^{-1}. *FUSE* spectra will be applied to a wide variety of astrophysical problems including measurements of the D/H ratio, studies of hot ionized gas in the interstellar and intergalactic media, observations of AGNs and quasars, observations of molecular hydrogen and other molecular species, studies of stellar winds and extended atmospheres, analyses of nebulae and supernova remnants, and general ISM abundances and depletions in our galaxy and in the Magellanic Clouds. The *FUSE* wavelength region has not been well-studied spectroscopically since the *Copernicus* mission of the 1970s. As a result, fundamental data are lacking for a number of transitions of atoms, ions, and molecules. We provide a list of species known to be of interest, in the hope that we can stimulate laboratory measurements of transition probabilities. We also invite input, suggestions, and data on species and transitions not in our list which may be relevent to the *FUSE* mission.

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