THE JPL MILLIMETER AND SUBMILLIMETER SPECTRAL LINE CATALOG

BRIAN J. DROUIN, JOHN C. PEARSON, *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109-8099*.

Recent concerns regarding interstellar line confusion has revived astrophysical support for the Jet Propulsion Laboratory's Millimeter and Submillimeter Spectral Line Catalog. This catalog was originally designed as a tool for the planning and interpretation of atmospheric, planetary and astronomical observations at long wavelengths. The traditional format (ASCII files available via ftp or http) has been sufficient for atmospheric science missions and individual astronomers; however the complexity of astrophysical sources and the comprehensive spectra expected from future telescopes (e.g. Herschel and ALMA) require a more modern approach to the database and its tools. The current catalog interface is designed for (human) users who might browse and search the contents. Users with large data analysis problems have been required to develop their own assimilation tools. However, the large data analysis problem is likely to become the regular problem; therefore the development of astronomical data analysis tools that seamlessly utilize the comprehensive spectroscopic data will be a primary driver for the upgrades. Some of the planned upgrades include: the file infra-structure will be cast into a database structure compatible with modern client tools; the development of a systematic and user/machine-friendly citation tool. Synergistic upgrades for the atmospheric usage of the database will also be highlighted. We will also discuss new or planned changes to the catalog species.