RECENT DEVELOPMENTS IN THE COLOGNE DATABASE FOR MOLECULAR SPECTROSCOPY, CDMS

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One central part of the CDMS[ab] is a catalog of (mostly) rotational transition frequencies of atomic and molecular species with emphasis on new, accurate, and high frequency data well into the terahertz region. As of Februar 2004, the catalog contains about 220 species of astrophysical, astrochemical, and planetary interest.

Star-forming regions are among the most varied and richest sources for the detection of molecular lines. For example, new, often complex molecules can be found. While star-less cores may show, e.g., extreme deuterium enrichment in molecules such as H_2CO, NH_3, and CH_3OH, high-mass star-forming regions may contain molecules in very highly rotationally or vibrationally excited states. Moreover, accurate rest frequencies permit the investigation of dynamics in star-forming regions. Recent additions in the CDMS and the need for more or more accurate laboratory data in these fields will be discussed as will be new features.

The database is available online free of charge through a link on the KOSMA web-site **http://www.ph1.uni-koeln.de/** or *via* the short-cut **http://www.cdms.de/**.

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[a] H. S. P. Müller, S. Thorwirth, D. A. Roth, and G. Winnewisser, *Astron. Astrophys.* **370,** (2002) L49–L52

[b] H. S. P. Müller, F. Schlöder, S. Thorwirth, J. Stutzki, and G. Winnewisser; in *Proceedings of the 4th Cologne-Bonn-Zermatt-Symposium "The Dense Interstellar Medium in Galaxies"*; Springer Verlag, Heidelberg, 2003, in press