

Molecular Line Surveys of Star-Forming Regions with FIRST

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The principal scientific drivers for high resolution spectroscopic line surveys of star-forming regions with FIRST are reviewed. Recent ground-based surveys at lower submillimeter frequencies have revealed remarkable physical and chemical variations between different objects which are likely related to their evolutionary state. The importance of complementary high-frequency data with HIFI will be discussed. Surveys provide a near-complete census of the gas-phase abundances, which can be compared with solid-state abundances derived from mid-infrared observations. The power of surveys at THz frequencies will be illustrated through examples of spectral scans obtained with the ISO-LWS, and prospects for further studies with PACS will be emphasized. Finally, the possibilities for surveying circumstellar disks will be mentioned.