

HIGH-RESOLUTION SPECTROSCOPY OF THE $A^1\Pi(v'=0-10)-X^1\Sigma^+(v''=0)$ BANDS IN $^{13}\text{C}^{18}\text{O}$

JEAN LOUIS LEMAIRE, *CNRS, Institut des Sciences Moleculaires d'Orsay, Orsay, France*; MICHELE EIDELSBURG, *Meudon, Observatoire de Paris, Paris, France*; ALAN HEAYS, *Leiden Observatory, University of Leiden, Leiden, Netherlands*; LISSETH GAVILAN, *CNRS/INSU, UPMC Univ Paris 06, Paris, France*; STEVEN FEDERMAN, *Physics and Astronomy, University of Toledo, Toledo, OH, USA*; GLENN STARK, *Department of Physics, Wellesley College, Wellesley, MA, USA*; JAMES R LYONS, *School of Earth and Space Exploration, Arizona State University, Tempe, AZ, USA*; NELSON DE OLIVEIRA, DENIS JOYEUX, *DESIRS Beamline, Synchrotron SOLEIL, Saint Aubin, France*.

Ultraviolet spectrographs on space-borne astronomical facilities are used to study CO photochemistry primarily through observations of the $A - X$ Fourth Positive Band System. Absorption from $^{12}\text{C}^{16}\text{O}$, $^{13}\text{C}^{16}\text{O}$, $^{12}\text{C}^{18}\text{O}$, and $^{12}\text{C}^{17}\text{O}$ in diffuse interstellar clouds has been detected to date. While the necessary spectroscopic data are available to identify the isotopologues, measurements of oscillator strengths only exist for the most abundant variant, $^{12}\text{C}^{16}\text{O}$. In our ongoing experiments on the DESIRS beam-line at the SOLEIL Synchrotron, we are acquiring the necessary data on oscillator strengths and term values for other isotopologues. Here we present our latest results involving $A - X$ bands in $^{13}\text{C}^{18}\text{O}$.