SPECTROSCOPY OF CARBONYL SULFIDE (OCS) NEAR 4100 CM^{-1}

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To support planetary studies of the Venus atmosphere, we have recorded infrared absorption spectra of OCS at 0.0033 cm^{-1}resolution using a Bruker IFS 125HR Fourier transform spectrometer at the Jet Propulsion Laboratory. The spectra of normal sample OCS was acquired at ambient room temperature. Different cells were used to achieve optical densities sufficient to observe the weaker hot bands and isotopic bands. The optics alignment was investigated by deriving an instrument line shape (ILS) function using an ILS derivation program[a]. Modulation efficiency and residual phase error were found to be very good, producing no significant instrumental line broadening or distortions in the line shapes. The path lengths of the cells were validated by analyzing near-IR CO_2 spectra recorded with the same cells with various path lengths. Results for OCS will be presented and compared with the earlier measurements.[b]

[a]F. Hase et al., Applied Optics, 38(15), 3417 - 3422 (1999)

[b]Research described in this paper was performed at the Jet Propulsion Laboratory, California Institute of Technology, under contracts and cooperative agreements with the National Aeronautics and Space Administration.