ATMOSPHERIC PHOSGENE, DETECTION AND NEW LABORATORY SPECTRA.

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Vertical profiles of atmospheric $COCl_2$ (phosgene, carbonyl dichloride) have been measured remotely by the JPL MkIV interferometer during recent balloon flights. The ν_5 band of $COCl_2$ in the 830 to 860 cm^{-1} spectral region was used for the analyses, despite its overlap with the stronger ν_4 band of CCl_3F. A combined analysis of infrared and microwave spectra was required to obtain a satisfactory fit to the atmospheric bandshape. Unlike the room temperature spectrum in this region, the atmospheric data has no obvious hot band contributions at the cold temperatures near the tropopause. Recent analysis of rotational-vibrational spectra in the mm-wave region has provided improved parameters for both symmetric isotopomers of chlorine and previously unpublished parameters for the mixed chlorine isotopomer. The mm-wave and microwave data will be combined with new infrared data for a comprehensive assignment and generation of a linelist.