



Ozone precision Measurements for the Remote Sensing of Atmospheres and Implications

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Ozone is a key species in planetary atmospheres. Its important role for the existence of life on Earth and its use as a dynamical and photo-chemical marker for the atmospheres of telluric planets (Mars, Venus) and supposedly also of Earth-like exo-planets make it a preferred object of spectroscopic studies, frequently in the strong bands at $10\ \mu\text{m}$. Existing spectroscopic databases show inconsistencies of some %, however. Motivated by the investigation of the feasibility of a stratospheric wind interferometer (SWIFT) based on ozone absorption at $1133.43351\ \text{cm}^{-1}$, which was funded by the Canadian Space Agency, we have undertaken a spectroscopic study of ozone in the $10\ \mu\text{m}$ range and at the UV reference wavelength of $253.65\ \text{nm}$. Our results suggest a correction of both, the currently recommended reference value in the UV and the infrared intensities. Other uncertainties in the spectroscopic databases are also discussed.