13th International Atmospheric Limb Workshop



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## Recent progress in spectroscopy at the NCEO

Limb sounding has a number of advantages over nadir sounding for measuring trace gases in the atmosphere. Limb sounders measure with improved vertical resolution and can extend to higher altitudes. They measure spectra over longer pathlengths than their nadir counterparts, with an increased sensitivity to minor species. In the infrared, this increased sensitivity along with the typically higher spectral resolution provides additional challenges in interpreting the measured atmospheric spectra, principally linked to the atmospheric radiative transfer modelling and the underlying spectroscopic data. As quantitative molecular spectroscopy is the foundational basis for this field, it is crucial that we continue to improve spectroscopy through new laboratory measurements and analyses. This presentation will focus on recent laboratory measurements for a number of important trace gases, including halogenated species, carbon dioxide and ammonia, and will also cover a new laboratory at Space Park Leicester dubbed the SPectroscopy for ENvironmental SEnsing Research (SPENSER) facility.

## Topic

Current and past limb and occultation instruments: algorithms, products, validation

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