

EARTH OBSERVATION SYMPOSIUM (B1)  
International Cooperation in Earth Observation Missions (1)

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THE ATMOSPHERIC LIMB SOUNDING SATELLITE (ALISS)

**Abstract**

The Atmospheric Limb Sounding Satellite (ALiSS) is a joint Canadian-Swedish concept that is currently under study by agencies, industrial partners and academic institutions in both countries. ALiSS has at its core four atmospheric limb remote sensing instruments. Three of these have space heritage and are: the Canadian designed Atmospheric Tomography System (CATS) that is a derivative of the highly successful Optical Spectrograph and InfraRed Imaging System (OSIRIS) instrument; the Swedish designed STEAMR radiometer that is a follow on instrument to the Sub-millimeter, Millimeter Radiometer (SMR) that currently operates with OSIRIS on Odin and a GPS Radio Occultation instrument. The fourth instrument, also Canadian, is the Spatial Heterodyne Observations of Water (SHOW). SHOW is novel technology that will measure water vapour profiles. Among other things the ALiSS package will deliver very high spatial resolution atmospheric composition (O<sub>3</sub>, H<sub>2</sub>O, NO<sub>2</sub>, HNO<sub>3</sub>, aerosol, others...) measurements within the extremely important UTLS region for chemistry and climate studies. One application would be using these within data assimilation systems in order to better monitor and predict these quantities. Also, the heritage of these instruments implies the ALiSS measurements will be extremely

valuable in the continuation of climate quality, satellite based time series of important constituents such as stratospheric aerosols, nitrogen dioxide, bromine monoxide and ozone. This talk will outline the ALiSS concept and the utility of the measurements.