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AAS021-P09

Room:Convention Hall

Time:May 23 16:15-18:45

## Distribution of the UT/LS water vapour retrieved from the JEM/SMILES observations

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Water vapour in the upper troposphere and lower stratosphere (UT/LS) region plays an important role in the weather and climate system on Earth. Despite its high importance, we are still lacking thorough understanding of the distribution and climatological roles of UT/LS water vapour because of insufficient temporal observational coverage.

New insight into the UT/LS water vapor can be provided by high sensitivity observations with the Superconducting Submillimeter-Wave Limb-Emission Sounder, SMILES: a limb emission sounder attached on the Japanese experiment module (JEM) onboard the International Space Station (ISS). One of the unique characteristics of the SMILES observation is the non-sun synchronous orbit of ISS. By accumulating the data from the several ISS evolutions, diurnal variations of the atmospheric constituents can be analyzed. Although SMILES has no water vapour transitions included in its observation spectral range, a significant contribution of the water vapour opacity of the 620 GHz and 557 GHz transitions comes into the SMILES observed spectra.

We will present the first results of the UT/LS humidity retrieval from the JEM/SMILES measurements focusing on its diurnal variation.