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SMILES SPARC/DI
SMILES climatology and activity in SPARC DI

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The Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES) on the Japanese Experiment Module (JEM) in the International Space Station (ISS) was successfully observed the altitude profiles of minor atmospheric compositions with new super-sensitive 4K heterodyne receiver system, which provide lower noise spectrum one order magnitude than Aura/MLS and Odin/SMR, from international space station (ISS) during 12 October 2009 and 21 April 2010. The atmospheric compositions SMILES observed were O3, H35Cl, H37Cl, ClO, HOCl, HO2, BrO, HNO3, CH3CN, Ozone isotopes, upper tropospheric humidity, ice cloud in the middle atmosphere. The wind velocities and temperature were also retrieved. ISS platform give us many unique observation characteristics, and one of them is a diurnal variation of the observation of atmospheric composition with non sun-synchronous orbit. SMILES is the co-development project between JAXA and NICT.

We would like to report a SMILES climatology for the diurnal variation for short-lived species in the stratosphere and mesosphere, and current status of our activity in SPARC data initiative. We used the SMILES L2 research product version 2.1.5 for the climatology. The status of the SMILES L2 research product version 2.1.5, including intensive error analysis, comparison/validation will be also present.

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