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Early check of the SMILES level 2 products using the other space-borne instrument observations

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To demonstrate the high sensitivity of 4-K cooled sub-mm limb sounders and to monitor global distributions of the stratospheric trace gases, the Japan Aerospace eXploration Agency (JAXA) launched the Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES) instrument to the International Space Station (ISS) in 2009 using the H-II Transfer Vehicle (HTV). SMILES has been transferred to normal operation phase on 6th November, 2009. Currently, level 2 data products of the SMILES measurements has been evaluated.

Here we compare the latest data products from SMILES with coincident observations from the other satellite-borne instruments (ACE-FTS, Aura/MLS, MIPAS, Odin/SMR and SCIAMACHY), by analysing volume mixing ratio profiles. The average values of the mean relative differences are consistent within the margin of error.

Keywords: SMILES