Japan Geoscience Union Meeting 2013
(May 19-24 2013 at Makuhari, Chiba, Japan)

AAS21-P07 Room:Convention Hall Time:May 19 18:15-19:30

Temperature from GPS RO meas. correlative to satellite and airborne obs. for comparing those CH4 profiles

Takafumi Sugita[1*], Naoko Saitoh[2], Sachiko Hayashida[3]

[1]NIES, [2]Chiba Univ., [3]Nara Women's Univ.

Evaluations of data quality of CH_4 retrieved from satellite-borne nadir sensors, from which are ADEOS/IMG in 1996-97, MetOp-A/IASI from 2007, and so on, in the troposphere and stratosphere have been performed in recent years (e.g., Clerbaux et al., ACP, 2003; Xiong et al., Remote Sens., 2010; Wecht et al., ACP, 2012; Razavi et al., ACP, 2009). GOSAT/TANSO-FTS started its operation from 2009, expected contributions in this area. For retrieving CH_4 profiles, it is necessary to input several external parameters such as temperature profiles, surface temperature, emissivity, and so on. A purpose of this paper is to understand the effect of temperature profiles on the CH_4 retrieval in the thermal infrared band of TANSO-FTS. So that, we will prepare temperature profiles from GPS radio occultations (RO). We will focus on GOSAT observations in the northern high-latitudes, where aircraft observations have been done by National Institute for Environmental Studies with the aid of Russian Academy of Science. We extracted data from coincidences between two Russian aircraft sites and GOSAT since 2009. Then, the RO temperatures for those pairs are prepared and compared with some meteorological datasets.

Keywords: temperature, methane, GPS, GOSAT, aircraft