

Optimization of the GOSAT/TANSO Observation Plan for X_{CO_2} and P_{surf} Accuracy Improvement

YOSHIDA, Jun^{1*} ; MOTOHASHI, Yousuke¹ ; TANIMOTO, Akira¹ ; IGUCHI, Mamoru¹ ; SOMA, Tomoya¹ ; SUTO, Masahiko¹ ; MIZOGUCHI, Takehiko¹ ; OCHIAI, Katsuhiko¹ ; KIKUCHI, Tadahiko¹ ; KUZE, Akihiko² ; SUTO, Hiroshi² ; SHIOMI, Kei² ; KAWAKAMI, Shuji² ; UEDA, Yoko² ; TANAKA, Makoto²

¹NEC Corporation, ²Japan Aerospace Exploration Agency

TANSO (Thermal And Near-infrared Sensor for carbon Observation) onboard GOSAT (Greenhouse gases Observing SATellite) has been acquiring mainly carbon dioxide (CO₂) and methane (CH₄) absorption spectra globally since 2009.

Using GOSAT ACOS Level 2 standard products, we consider the accuracy of X_{CO_2} (CO₂ column density) and P_{surf} (surface pressure) as the differences between the a priori and the retrieval results, and investigate the relationships between these accuracy and the observation conditions (SNR, surface albedo, observation geometry, aerosols, etc.).

This investigation will contribute to revising the GOSAT operation plan and to improving the accuracy of the X_{CO_2} and P_{surf} .

Keywords: greenhouse gass, big data, accuracy improvement, satellite remote sensing, optimization