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Early results on the validation of GOSAT/TANSO GHG observations at the Sodankylä-Pallas satellite pixel (67N, 27E)

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Sodankylä-Pallas satellite pixel, located in Northern Finland (67°N, 27°E), offers a comprehensive set of atmospheric measurements to validate space-born environment monitoring sensors. Several validation campaigns as well as longer term validation programs for atmospheric and surface monitoring satellite sensors have been taking place in the frame of the ESA, NASA and EUMETSAT projects. Recently the JAXA operated satellite GOSAT was launched in early 2009 carrying The TANSO FTIR instrument dedicated for monitoring of greenhouse gas total columns. At Sodankylä TTCON site (Total Carbon Column Observing Network) the Bruker 125 HR FTS has observed GHG columns from the ground since February 2009. In addition to FTIR measurements, validation data include flux tower- and surface measurements of GHGs as well as supportive observations from the co-located weather station. The latter includes a full suite of meteorological measurements including SYNOP, radio- and aerosol soundings, atmospheric optical depth, solar radiation, and spectral (Vis-NIR) surface reflectance measured from a 30 m tower. In this study, comparisons of quasi-simultaneous observations of local measurements and GOSAT/TANSO FTS L2 products will be provided. The presentation introduces the Sodankylä-Pallas satellite pixel and describes preliminary results obtained during the autumn 2009 and spring 2010.