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CO₂ and CH₄ monitoring from Space with TANSO on GOSAT

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To measure the global column concentration of carbon dioxide (CO₂) and methane (CH₄) from space, the Greenhouse gases Observing SATellite (GOSAT) have been developed. GOSAT is a joint project of Japan Aerospace Exploration Agency (JAXA), the Ministry of Environment (MOE) and National Institute for Environmental Studies (NIES). Two instruments are accommodated on GOSAT. Thermal And Near infrared Sensor for carbon Observation Fourier-Transform Spectrometer (TANSO-FTS) detects the Short Wave Infrared (SWIR) reflected on the earth's surface as well as thermal infrared (TIR) radiated from the ground and the atmosphere. TANSO-FTS is capable of detecting wide spectral coverage, specifically, three narrow bands (0.76, 1.6, and 2 micron) and a wide band (5.5 – 14.2 micron) with 0.2cm⁻¹ spectral resolution. TANSO Cloud and Aerosol Imager (TANSO-CAI) is a radiometer of ultraviolet (UV), visible, and SWIR to detect and correct cloud and aerosol interference. The GOSAT project overview will be presented.