SAOZ BALLOON BORNE AND POAM III ODIN COLLOCATED OZONE AND NO$_2$ PROFILES

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The Swedish/Canadian/French/Finnish research satellite ODIN was launched on February 20, 2001, with two instruments on board, the Sub Millimeter Radiometer (SMR) and the Optical Spectrograph and Infrared Imaging System (OSIRIS). ODIN has a sun-synchronous near-terminator orbit with an inclination of 97.8° and scans the Earth’s limb in its atmospheric mode. SMR and OSIRIS co-aligned tangent points and the nodding of the entire spacecraft provides the range of tangent altitude, that is required for the determination of height distribution. The SMR instrument is capable of measuring atmospheric thermal emission (480–580 GHz) originating from various trace stratospheric and mesospheric constituents, detecting emission lines in the middle atmosphere (10–100 km). The second instrument, OSIRIS optical spectrometer provides scattered sunlight spectra containing atmospheric absorption features within the wavelength range 280–800 nm, providing O$_3$ and NO$_2$ profiles among others.

Four SAOZ balloon flights have been performed above Kiruna (12–12 August 2002), above Vanscoy (3–4 September 2002) and above Aire sur l’Adour (1 and 4 October 2002) for the validation of the SMR and OSIRIS ozone and NO$_2$ measurements. Correlative measurements of the POAM III solar occultation instrument in orbit on SPOT 4 have been selected to within 5° in latitude, 12° in longitude and 24 hour in time. The ODIN data are expected to be released within a few weeks, so preliminary comparisons could be shown at meeting.