

Influence of the South Atlantic Anomaly on the quality of ozone vertical profiles retrieved from SCIAMACHY limb measurements

The South Atlantic Anomaly (SAA) is an area where a layer of energetic charged particles (known as the inner Van Allen radiation belt) is located at lowest altitudes and is crossed by the satellites during their orbital movement. While the spacecraft crosses the SAA, the interaction of energetic particles with the instrument's detector causes irregularity in the recorded spectral signals. Depending on the used spectral information and perturbation strength, this may influence the quality of the retrieved products. To ensure the high quality of the resulting data bases the results obtained within the SAA range are usually rejected from the further analysis. This procedure results however in a non-negligible gap in the instrument sampling which is not desired when analyzing geophysical data sets.

This work is focused at analyzing the SCIAMACHY limb measurements performed when the spacecraft crossed the SAA and evaluating the quality of ozone vertical profiles retrieved from these measurements.

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