



Application of the hicru cloud algorithm on sciamachy: design and intercomparision

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The SCanning Imaging Absorption spectrometer for Atmospheric Chartography (SCIAMACHY) on ENVISAT-1 allows measurements of different tropospheric trace gases (e.g. NO₂, SO₂, CH₄) using the DOAS technique. Cloud detection algorithms are essential for calculating the vertical column density. A widely used method determines cloud fraction using broad band spectrometers, the Polarization Monitoring Devices (PMDs). The new algorithm developed for SCIAMACHY is based on the experience with the Heidelberg Iterative Cloud Retrieval Utilities (HICRU) designed for GOME, which is already well validated. In addition, ice coverage can be separated from cloud coverage using the near-IR-PMD. This presentation shows the design of the algorithm, which connects a sophisticated, iterative algorithm using image sequence analysis with the widely used threshold method as well as an intercomparision of the results with other algorithms for SCIAMACHY and information about cloud coverage from other satellite platforms.