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Retrieval of Stratospheric CH_4 and CO_2 Profiles from SCIAMACHY Solar Occultation Measurements with Onion Peeling DOAS

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A new retrieval method (called "Onion Peeling DOAS") has been developed to derive stratopheric profiles of atmospheric constituents from solar occultation measurements of the SCanning Imaging Absorption spectroMeter for Atmospheric CHartographY (SCIAMACHY). This method is intentionally kept simple and based on a combination of an onion peeling approach with a modified DOAS (Differential Optical Absorption Spectroscopy) fit. The method has already been successfully used to derive stratospheric water vapour profiles. However, the Onion Peeling DOAS method can also be applied to other atmospheric constituents. Here, we will present first retrieval results for methane (CH_4) and carbon dioxide (CO_2).