



Global distribution and variability of mesospheric Mg⁺

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We present first near-global measurements of singly ionized Mg in the mesosphere. The observations were made by the satellite-borne grating spectrometer SCIAMACHY operating onboard the European satellite ENVISAT. SCIAMACHY observes fluorescence resonance emissions of Mg⁺ at 280 nm, which are excited by UV radiation of sunlight. From these emissions, the vertical distribution of Mg⁺ density is retrieved simultaneously with total air density and nitric oxide densities in an altitude range from 70 km to 95 km with a vertical spacing of about 3 km. First preliminary results of the Mg⁺ density retrieval covering several months of SCIAMACHY data reveal a high variability in the upper mesosphere, as well as a distinctive latitudinal distribution.