



A DETAILED EXAMINATION OF PHOTOLYSIS RATES IN THE EUV

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Comparison of photolysis modules of 3D models show deviations at about 200 nm caused by differences in the determination of the actinic flux. The differences are most pronounced for high solar zenith angles and shorter wavelengths. The results of a Monte Carlo calculation of the actinic flux with high spectral resolution and Rayleigh scattering are used to calculate photolysis rates for various zenith angles. These results are compared with the standard photolysis module of the KASIMA chemical transport model and the effects on the chemistry especially for high zenith angles are studied. In addition, as solar variability in the UV and subsequent changes in photolysis rates is proposed in several studies to be a possible cause for the link of the solar cycle and the terrestrial climate, the sensitivity of the chemistry to changes in the UV using the detailed results are determined .