



ACTINIC FLUX IN THE EUV AT DEEP ATMOSPHERIC LAYERS: A MONTE CARLO PROGRAMME

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Photolysis modules commonly used in 3D models yield very *different* actinic fluxes at the Schumann Runge bands of oxygen (around 200 nm). Therefore we developed a Monte Carlo programme, which simulates the penetration of solar radiation into the earth's atmosphere. It takes into account multiple Rayleigh scattering and temperature dependent absorption by O₂ and O₃ with a spectral resolution of about 0.002 nm. The atmosphere is assumed to be spherically symmetric. It is divided into small spherical layers, in which approximately the extinction coefficient in particular may be supposed to decrease exponentially with respect to r^2 , for simplicity. For the actinic flux at a given solar zenith angle all photons which cross the corresponding cone surface may be collected. Thus about 10¹⁰ photons suffice for a good accuracy even at deeper layers. Our results favour a higher actinic flux than in some models.