MULTIPLE SCATTERING SIMULATIONS FOR REMOTE SENSING OF AEROSOL EVENTS

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Technical Commission VII Symposium 2010

ABSTRACT:

Recently atmospheric aerosols are frequently loading too much, which is called aerosol event. For examples, large scale-forest fire occurs due to the unstable climate and/or global warming tendency. It damages the Earth environment as biomass burning and emission of carbonaceous particles. It is also known that the heavy soil dust is transported from the China continent to Japan on westerly winds, especially in spring. In the case of aerosol events, it is rather difficult to do the sun/sky photometry from the ground, however satellite efficiently works. Here the detection algorithms from space for such aerosol events as dust storm or biomass burning plume are dealt with multispectral satellite data first. And then aerosol retrieval algorithms are examined based on new radiation transfer code for semi-infinite atmosphere model. The derived space-based results are compared with the model simulations. In this work, the space- or surface-based measurements, multiple scattering calculations and model simulations are combined together for aerosol remote sensing in a global scale.

TOPIC: Multi-spectral and hyperspectral remote sensing
ALTERNATIVE TOPIC: Remote sensing applications