The efficient detection of cloud scenes by Radiance Enhancement (RE) and with their impact on earth global energy budget due to Short Wave upwelling Radiative Flux (SWupRF) within NIR spectral range of space-orbiting Argus1000 micro-spectrometer

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Abstract

The Radiance Enhancement (RE) and integrated absorption technique is applied to detect clouds by enhancement in radiation due to cloud and no cloud phenomena. The Shortwave upwelling Radiative Flux (SWupRF) within NIR of Argus 1000 for O2, H2O, CO, and CH4 has also been quantified. This new model is used to estimate the magnitude for RE and SWupRF over spectral range of 1000nm to 1700nm by varying surface albedo, mixing ratios and surface reflectivity. In this work we employ satellite real observation of space orbiting Argus1000 along with line by the GENESPECT radiative transfer model for the efficient detection of clouds with their impact on solar energy budget due to SWupRF effects. We calculate and compare both the synthetic and real measured observed data set of different week per pass of surface energy budget due to SWupRF effects. We calculate and compare both no cloud phenomena. The Shortwave upwelling Radiative Flux (SWupRF)W/m² is promising for the instant and reliable detection of the cloud scenes with their change the interpretation of the depth of an absorption band. In cloud retrievals exchange processes that determine the earth climate, namely solar and constituent's. The most popular greenhouse gas H2O plays a very important part for clouds change the cooling or heating of the surface below.

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