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Application of discrete-ordinate radiative transfer (distort) model to inhomogeneous aerosols atmosphere

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Abstract content
   (Max 300 words)
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In this research work the discrete-ordinate radiative transfer (DISORT) model was applied to the single layer, scattering and inhomogeneous atmosphere of the Haze-L cloud model containing aerosols. The process involved the analytic solution as well as the numerical implementation of the radiative transfer equation (RTE) of the electromagnetic radiation from the Sun. The unknown coefficients in the analytic solutions to the RTE are determined from the boundary conditions of the diffuse intensity at the top and bottom of the atmosphere and from continuity conditions of radiation at the layer. However the result in this work is obtained numerically using the Mie theory for the calculation of the scattering efficiency, and DISORT package for fluxes and intensities. The relationship between transmission and reflection with the zenith angle of the sun was determined and parameterized for glacier, snow, sea-ice, desert and savannah surfaces respectively.

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