



The influence of the Earth's atmospheric turbulence on the space optical system resolution

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Present article states a problem of the influence of the turbulence, aerosol's and molecular multiple light scattering joint in the Earth's atmosphere on a space board optical devices. In the framework of making use of a linear system's presentation and Fourier optics analysis [1]-[3], the analytical estimation of total spatial-frequency transfer function of linear optical system "atmosphere - underlying surface - space board device" is given. It is demonstrated that for the remote sensing conditions of the Earth's atmosphere from space bounded from below by arbitrary reflecting bottom, the influence of aerosol's – molecular multiple light scattering on the quality of space optical information in visible spectral region is more significant in comparison with pure turbulence effects.

References

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