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Excitation of infrasonic oscillations during meteor fluxes

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Nano- and microscale particles are formed at the altitudes of 70 – 130 km during the periods of such meteor fluxes as Perseides, Orionides, Leonides, and Gemenides. Observations of the so-called “dusty” lines in the low–frequency radio noises spectra confirm this phenomenon. These lines appear due to the development of the modulational interactions of electromagnetic and dust acoustic waves. It is shown that the presence of the low–frequency dust acoustic perturbations can result in the excitations of infrasonic oscillations in the atmosphere. The possibility of observations of the infrasonic waves at the Earth’s surface during the periods of the meteor fluxes is discussed. It is shown that the infrasonic waves excited by the dust acoustic perturbations can be dominant at the Earth’s surface among the infrasonic waves excited by other mechanisms. We discuss also a possibility of excitation of infrasonic waves by dust acoustic perturbations in dusty plasmas of the summer polar mesosphere and manifestations of the infrasonic waves in this case.

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