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Seasonal variations of planetary waves intensity in the middle atmosphere

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Abstract

In this papers the investigation of time variations of the energy of background motions as well as the intensity of the planetary waves by continuous measurements in the height range of the middle-latitude middle atmosphere was fulfilled. Height and seasonal regularities for the period of time 1992-2001 are established. Oservatoris during the period close to the cycle of solar activity allow to find a stable height and seasonal structure of energetic parameters for the middle atmosphere being investigated in the work. We found differences of the height profiles of phases and also the difference of intensity of annual and semiannual oscillations of kinetic energy of background and vortical motions on the different height levels of the middle atmosphere. The annual oscillations prevail on heights of the troपोstratosphere while the semiannual oscillations plays a main role in the seasonal varations on heights of the upper mesosphere - lower termosphere. The strong difference of height profiles of phase of the maximum of annual and semiannual oscillations on heights of the upper mesosphere - lower termosphere indicates the different origin of these oscillations in this height range.

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Keywords

Background motions, Height profiles, Planetary waves, Vortical motions