Quasiperiodical modulation of the characteristics of quasitrapped protons motion in the geomagnetic field as a consequence of morphological features of trajectories

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On the basis of the numerical investigation of equations for relativistic proton motion in a stationary magnetic field the morphological analysis of quasitrapped particle trajectories has been carried out. It is noted, that trajectories of this type has usually a petal-like shape with two reflection points located in one hemisphere. The periodicity of distribution function of quasitrapped motion time in a geomagnetic field is found. It results from conservation of shape and size of the given element. The absence of similar periodicity in distribution of asymptotic directions is shown.