

Expected distribution of interstellar meteoroids in the vicinity of the earth's orbit

Bagautdinova A., Belkovich O.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Hypothesis that the sources of interstellar particles are planet systems of late class stars is discussed. It was supposed that the planet systems have something like the Oort cloud in our planet system on the boundary the Sun gravitation field. Some particles leave a cloud due to perturbations of nearest stars. The most probable leaving velocity relative to the parent star is the minimal one. So one can expect the velocity distribution of interstellar particles relative the local centroid of stars is similar to the velocity distribution of stars. The interstellar meteoroids flux is distorted by gravitational field of the Sun and its moving relative meteoroid cloud. The transformation of interstellar meteoroid flux density in the gravitational field of the Sun lead to the appearance of some areas at the celestial sphere with high concentrations of their radiants. It is the coincidence of the observed and the calculated radiant concentrations of interstellar meteoroids at the celestial sphere.
