

SINGLE POSITION STATION FOR DETERMINATION OF METEOR RADIANT BY TV-TRANSMITTER SIGNALS

A.P. Slivinsky^{1,2}, A.V. Shulga¹

¹ *Research Institute Nikolaev Astronomical Observatory, Nikolaev, Ukraine*

² *Ukrainian Radio Technical Institute, Nikolaev, Ukraine*

Abstract. A single position forward scattering radiolocation station (RLS) is considered as an instrument for observation of the signals scattered by a meteor trail. The advantages of a single radar are more convenient operation and less financial cost in comparison to a many position RLS of the same accuracy. The approach is based on two technical decisions. Reception of the TV-transmitter signal scattered by meteor trail makes it possible to determine the signal propagation time. In addition, it is technically possible to design the antenna system, which can be used for determination of the angle of elevation and azimuth to the point of the signal scattering by meteor trails with required accuracy. The observed data for two meteors belonging to the same meteor stream, at a certain distance between the transmitter and receiver is sufficient for the calculation of radiant and velocity of the meteor.

Keywords: meteor, radiant, TV transmitter.