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ON THE OBSERVATION OF THE ARTIFICIAL SATELLITE

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O nabludeni iskusstvennogo sputnika

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ON THE OBSERVATION OF THE ARTIFICIAL SATELLITE

As is known, the artificial earth satellites will be launched during the Third International Geophysical Year; from observations of their rotating around the earth, valuable information concerning high atmospheric layers as well as the form and structure of the earth will be obtained.

The astronomers of the Soviet Union are entrusted with a difficult and responsible problem of organizing visual observations of the earth satellites.

The first satellite will have a visible stellar value from 4 to 9 and the period of rotation of about one hour and half. It will be possible to observe them only during early morning and afternoon twilight; moreover, because of the large angular velocity (up to  $1^\circ$  per sec) the observation time will be no more than 2 min, at a given point, of each passage of the satellite.

Due to the rotation of the earth and its non-sphericity, the orbit of the satellite will be systematically displaced relative to the earth surface.

The probability is very small that it will be possible to observe two consecutive passages of the satellite from one point and during the same twilight.

For the visual observations of the satellite, it has been possible to organize a network of special stations manned by 10 to 20 observers (not necessarily professional astronomers), each observing a small area of the sky by means of a standard telescope having an entrance pupil of 50 mm and a field of vision of about  $11^\circ$ . The passage of the satellite through a certain point of the celestial sphere will be registered by some recording instrument related to the time signals. It is possible that certain satellites will be equipped with pulse gas-discharge tubes that would periodically produce light flashes.

This would make it possible to conduct visual observations during the entire night.

The Astronomical Council of the Academy of Sciences, USSR, appeals to all astronomical institutions, to all astronomers of the Soviet Union and to the members of the All-Union Astronomical Geodetic Society with a request to be prepared for participation in the visual observations of the artificial satellites.

Instructions and equipment necessary for observations may be obtained from the Astronomical Council.

Chairman of the Astronomical Council  
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