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**ASTRONOMICAL RESEARCH:
FROM NEAR-EARTH SPACE
TO THE GALAXY**

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ABSTRACT BOOK

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power is 120 kW. Output spectra of frequency demodulator are analyzed to detect a meteor reflection of radio waves. A method of restoring the analogue of amplitude-time characteristics of FM-signal (ATC-analog), which was developed earlier, is used. Characteristics of ATC-analogue are taken as a model of the signal reflected from the meteoroid trail.

As a result of visual data processing of experimental data the daily estimates of number of meteor signals from August 2010 to August 2011 were obtained. Meteor showers were detected. Time and duration of these showers coincide with the optical observations of IMO (International Meteor Organization).

Reception of FM-signal from Kielce's transmitter was carried out simultaneously at two receiver sites, located at the distance of about 145 km. Differences of noise conditions have been identified. They are caused by differences of temperature inversion on radio paths. The ability of estimations of path difference for radiowaves reflected from meteor was verified by signal convolution. Software for automated detection of meteor reflections of radio waves is developed.

RESEARCH OF SEISMIC WAVES CAUSED BY STRONG EARTHQUAKES, WHICH WERE REGISTERED BY FEDCHENKO ASTRONOMICAL CLOCK

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Since September 2009, the simultaneous recording of readings of Fedchenko astronomical clock (FAC) and seismograph station is carried out in RI NAO. The purpose is to register seismic waves caused by earthquakes. In a few minutes before arrival of seismic wave the effect of an anomalous decrease of the background dispersion fluctuation of the FAC readings (predecessor) is detected. This effect is absent in seismograph station readings. This effect is presumably caused by super-low frequency electromagnetic radiation at the epicenter of the earthquake. The map of the epicenters of earthquakes with predecessors and without them is given. Signal/noise ratio of FAC and seismograph station is compared.