



High sensitive observations of the planetary radio emission in decameter wavelength

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The progress of the ground-based low frequency radio astronomy has opened a new approach to the study of planetary radio emission in the solar system and beyond. This is manifested in the study of the Jupiter (detection of various types of the sporadic emission), of the Saturn (investigation of the electrostatic discharges emission, SED), as well as other planets and exoplanets. High efficiency decameter wavelength radio telescope UTR-2 and modern registration systems (effective area is more than 100 000 sq.m., instant frequency band is 8-33 MHz, dynamic range is about 90 dB, the frequency resolution is about 1 kHz, the temporal resolution is about 1 microsecond) allow for a new observation and detect many interesting phenomena.

This includes the detection of superfine time-frequency structures and new types of the modulations effects in the Jovian radio emission, the detection of microsecond scales in the SED emission of the Saturn, and dispersion delay of the SED signals in the interplanetary medium. In addition, the described above method of observation of the planetary signals allowed for the first time to start ground-based searching radio emission from Uranus, Venus, Mars and exoplanets.