

SOLAR RADIO EMISSION IN THE DECAMETER WAVELENGTHS BAND

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The presentation concerns the results of solar radio emission observations, which were performed in 2001-2008 with the world largest decameter radiotelescope UTR-2 (Kharkiv, Ukraine) at the frequencies 10-30MHz. These observations were done using new up-to-date backend facilities, which allowed simultaneous registering of the radio emission in the whole mentioned frequency band with dynamic range 70dB, frequency resolution 12 kHz and time resolution up to 2 ms. It made possible to find and analyze a number of new phenomena at the decameter wavelengths band, as well as to investigate in detail the properties of already known sporadic bursts of the solar radio emission. For the first time at frequencies 10-30 MHz we have registered such phenomena as: the Type II bursts with one, two and three harmonics, the fine structure of Type II and Type III bursts, the Type III-like and Type IIIb-like bursts, solar U- and J- bursts, the Type IV bursts of different kinds with fine structure in the form of fiber bursts and zebra structure. Besides mentioned above we have deeply studied the properties of the solar drift pairs, S- bursts, spikes and striae at the decameter waves. The analysis of those properties showed that using the observational data obtained in the decameter wavelengths band one could define the solar corona properties at the heights of 1.5-2 solar radii.

Solar radio emission, decameter wavelengths, largest radiotelescope, backend facilities, properties of solar radio bursts, fine structure

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