



Dynamic spectrum features of the Jovian S-emission as obtained with different time scales

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The sporadic decameter emission (DAM) of Jupiter represents an exceptional phenomenon due to its extraordinary variety in the frequency - time plane. The dynamic spectrum, a presentation in frequency and time, has a very complex hierarchical structure. Depending on the time resolution achieved in the experiment as well as on the visualization time scale, different features of the radiation spectra can be stressed. Based on observations of the Jovian S-burst radiation which were carried out within the frame of the joint Ukraine-Austria-France-Russia INTAS project with the high-frequency and time resolution equipment of the Digital Spectropolarimeter (DSP) installed into the world-largest decameter band radio telescope UTR- 2, a variety of modulation events have been analyzed and ordered. For example, we investigated the behavior of the so called “modulation lanes” which always appear on the scale of minutes when the data time resolution is about 100 ms. As intriguing kind of spectrum modulation was found over the scale of tens of seconds, viz. three separated quasi - harmonic structures of different frequency bands. By processing the data with a millisecond resolution in the wavelet analysis technique we also found a short-pulse content of the individual simple S-burst. The results may prove useful for further studies of the still unclear origin of the sporadic Jovian decameter emission.