

NEW DIGITAL RECEIVER-SPECTROANALYZER FOR RADIO TELESCOPES UTR-2 AND URAN

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This report presents the results of the development and testing of a prototype of a new digital receiver with Fourier analysis functions. The receiver is designed for UTR-2 and URAN decameter range radio telescopes.

The receiver consists of a digital conversion and input board and a computer equipped with Nvidia CUDA graphics processor running developed software.

Unlike previous ones, the new receiver has a frequency range of 0-40 MHz, number of frequency channels is over 524,000, frequency resolution is 0.076 kHz, and time resolution is 12.8 μ s.