

**New possibilities of multithreshold decoding for high-reliable data  
transmission in ERS systems  
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**Abstract:** Reliability of transferring binary digital streams in Gaussian channels with a large noise level is considered. Advantages of multithreshold decoding over other noiseproof codes are described. New high-speed hardware realizations of the multithreshold decoder on FPGA Altera is described. Measuring results of a real power efficiency of coding for the created device are presented.

**Keywords:** optimum decoding, multithreshold decoding, ERS, FPGA, high-speed communication.

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