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TWO-MODULUS ON-BITS SUM CODES IN THE EXPERIMENT WITH ANALYSIS OF STRUCTURAL REDUNDANCY AND DETECTION CAPACITY OF FUNCTIONAL CONTROL SYSTEMS

The paper is devoted to the analysis of characteristics of the two-modulus on-bits codes in the residue ring by modulo $M = 4$. In functional control systems we conducted experiments with a set of reference combinational circuits *LGSynth`89* and *MCNC Benchmarks*. To illustrate the results we compared two-modulus codes with known classic and modified sum codes in organization of functional control systems. Advantages of two-modulus codes over the known sum codes are shown in the systems of functional control. These advantages consist in reduction of complexity of the technical implementation of structures while improving their detection capacity.

Keywords: functional control system; Berger code; on-bits sum code; two-modulus sum code; detection capacity; complexity of technical implementation; structure redundancy.

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