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THE WAY OF FORMATION OF TOTALLY SELF-CHECKING CONCURRENT ERROR DETECTION SYSTEM BASED ON “2-OUT-OF-4” CODE

Authors consider concurrent error detection systems that use Boolean complement method based on even-weight codes. They offer the way of formation of totally self-checking concurrent error detection system based on “2-out-of-4” code. The findings have shown some advantages of this approach in comparison with known methods of duplication and “1-out-of-4” code. We have also considered the results of experiments with LGSynth’93 Benchmarks. Authors analyze structure redundancy characteristics of systems constructed with known and proposed principles.

Keywords: concurrent error detection system; Boolean complement; even-weight code; “2-out-of-4” code; “1-out-of-4” code; totally self-checking structure; structure redundancy.

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