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Integral Estimate of LSI Radiation Hardness as a Fuzzy Number of Multiplicity of Nodes

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The analysis of the LSI behavior under radiation exposure at functional and logical level of description was carried out. It is shown that there are deterministic and non-deterministic failures typical when exposed to ionizing radiation. In the first case, the behavior of complex devices is determined by the specific ratio of the radiation-sensitive parameters of the elements, in the second case - the statistical variation of the failure threshold levels for the same type of samples.