



Electronics

an Open Access Journal by MDPI

CiteScore: 7.0

Impact Factor: 2.9

Special Issue Reprint

Single-Event Effects

Edited by: Ygor Aguiar and Corinna Martinella

This Special Issue outlines the growing importance of SEE research as semiconductor technologies develop toward nanometer-scale nodes and the adoption of three-dimensional architectures. Soft errors caused by atmospheric neutrons and alpha particles extend SEE concerns beyond space applications to terrestrial systems, including high-performance computing, autonomous platforms, and safety-critical infrastructure. The ten contributions in this Special Issue address SEE challenges across multiple topics, including device-level modeling; reliability-aware EDA tools; circuit-level hardening-by-design strategies; and experimental characterization in advanced technologies, wide-bandgap devices, and programmable platforms. Several works also explore emerging data-driven approaches for reliability prediction. Collectively, these studies highlight the transition toward integrating radiation resilience directly into modern electronic design methodologies.

