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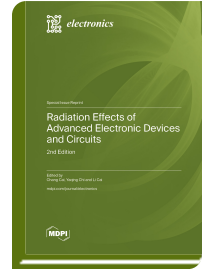
Radiation Effects of Advanced Electronic Devices and Circuits

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Responding to the critical demands for radiation-hardened space electronics, this Reprint synthesizes cutting-edge advances in radiation effects research across advanced semiconductor technologies. It addresses dual industry challenges posed by escalating radiation susceptibility from device scaling and the urgent need for new evaluation paradigms in radiation hardness assurance for complex electronic systems. The Reprint features pioneering research on CNN accelerators for aerospace computing, gallium nitride (GaN) High Electron Mobility Transistors (HEMTs), high-barrier beta-gallium oxide (β -Ga₂O₃) Schottky Barrier Diodes (SBDs), silicon MOSFETs, and indium phosphide Heterojunction Bipolar Transistors (InP HBTs), collectively advancing radiation hardening methodologies and reliability assessment. By presenting novel hardening strategies with breakthrough radiation mitigation solutions, it delivers essential insights for navigating evolving challenges while positioning itself as a vital resource for advancing radiation tolerance electronics innovation.



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