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Titolo	Circadian Rhythms for Future Resilient Electronic Systems : Accelerated Active Self-Healing for Integrated Circuits / / by Xinfei Guo, Mircea R. Stan
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Nota di contenuto	Introduction to Wearout -- Accelerated Self-Healing Techniques for BTI Wearout -- Accelerating and Activating Recovery for EM Wearout -- Circuit Techniques for Accelerated and Active Recovery -- Accelerated Self-Healing as a Key Design Knob for Cross-Layer Resilience -- Design and Aging Challenges in FinFET Circuits and Internet of Things (IoT) Applications -- Future Directions in Self-Healing.
Sommario/riassunto	This book describes methods to address wearout/aging degradations in electronic chips and systems, caused by several physical mechanisms at the device level. The authors introduce a novel technique called accelerated active self-healing, which fixes wearout issues by enabling accelerated recovery. Coverage includes recovery theory, experimental results, implementations and applications, across multiple nodes ranging from planar, FD-SOI to FinFET, based on both foundry provided models and predictive models. Presents novel techniques, tested with experiments on real hardware; Discusses circuit and system level wearout recovery implementations, many of these designs are portable

and friendly to the standard design flow; Provides circuit-architecture-system infrastructures that enable the accelerated self-healing for future resilient systems; Discusses wearout issues at both transistor and interconnect level, providing solutions that apply to both; Includes coverage of resilient aspects of emerging applications such as IoT.