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Collana	Analog circuits and signal processing
Altri autori (Persone)	CatthoorFrancky DehaeneWim
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Soggetti	Systems engineering Wireless sensor networks
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- SRAM Bit Cell Optimization -- Adaptive Voltage Optimization Techniques: Low Voltage SRAM Operation -- Circuit Techniques to Assist SRAM Cell: Local Assist Circuitry -- SRAM Energy Reduction Techniques -- Variation Tolerant Low Power Sense Amplifiers -- Prototypes -- Conclusions.
Sommario/riassunto	This book features various, ultra low energy, variability resilient SRAM circuit design techniques for wireless sensor network applications. Conventional SRAM design targets area efficiency and high performance at the increased cost of energy consumption, making it unsuitable for computation-intensive sensor node applications. This book, therefore, guides the reader through different techniques at the circuit level for reducing energy consumption and increasing the variability resilience. It includes a detailed review of the most efficient circuit design techniques and trade-offs, introduces new memory architecture techniques, sense amplifier circuits and voltage optimization methods for reducing the impact of variability for the advanced technology nodes. Discusses fundamentals of energy reduction for SRAM circuits and applies them to energy limitation

challenges associated with wireless sensor nodes; Explains impact of variability resilience in reducing the energy consumption; Describes various memory architectures and provides detailed overview of different types of SRAM cells; Includes sense amplifier design techniques for solving energy-offset tradeoff.
