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Titolo	Advanced Multiphasing Switched-Capacitor DC-DC Converters : Pushing the Limits of Fully Integrated Power Management / / by Nicolas Butzen, Michiel Steyaert
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Fully Integrated Switched-Capacitor Fundamentals -- Voltage-Domain Analysis -- Scalable Parasitic Charge Redistribution -- MIMO Switched-Capacitor Converter using Parasitic Coupling -- Stage-Outphasing and Multiphase Soft-Charging -- Continuously-Scalable Conversion Ratio Topologies -- Conclusions.
Sommario/riassunto	This book gives a detailed analysis of switched-capacitor DC-DC converters that are entirely integrated on a single chip and establishes that these converters are mainly limited by the large parasitic coupling, the low capacitor energy density, and the fact that switched-capacitor converter topologies only have a fixed voltage conversion ratio. The authors introduce the concept of Advanced Multiphasing as a way to circumvent these limitations by having multiple out-of-phase parallel converter cores interact with each other to minimize capacitor charging

losses, leading to several techniques that demonstrate record efficiency and power-density, and even a fundamentally new type of switched-capacitor topology that has a continuously-scalable conversion ratio. Provides single-source reference to the recently-developed Advanced Multiphasing concept; Enables greatly improved performance and capabilities in fully integrated switched-capacitor converters; Enables readers to design DC-DC converters, where multiple converter cores are put in parallel and actively interact with each other over several phases to improve their capabilities.