

1. Record Nr.	UNINA9910208952703321
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Titolo	Digital control of high-frequency switched-mode power converters // Luca Corradini, Dragan Maksimovic, Paolo Mattavelli, Regan Zane
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons Inc., , [2015] [Piscataway, New Jersey] : , : IEEE Xplore, , [2015]
ISBN	1-119-02539-7 1-119-02537-0
Descrizione fisica	1 online resource (402 p.)
Collana	IEEE press series on power engineering
Altri autori (Persone)	MaksimovicDragan <1961-> MattavelliPaolo ZaneRegan
Disciplina	621.381044
Soggetti	Electric current converters - Automatic control Switching power supplies - Automatic control Digital control systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
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Sommario/riassunto

A powerful reference for anyone working in power electronics The topic, switched-mode power converters, has gathered immense interest for the power electronics community worldwide. This is mostly due to the number of emerging applications that benefit from the availability of low-cost digital technology, and therefore becomes competitive against mainstream techniques. This book is focused on the fundamental aspects of analysis, modeling and design of digital control loops around high-frequency switched-mode power converters in a systematic and rigorous manner. The objectives are to enable the reader to understand, analyze, model, design, and implement digital feedback loops around power converters, from system-level transfer function formulations to practical implementation details. Both theory and practical examples of the topics treated are addressed. The latter make extensive use of Matlab simulations, and several Matlab examples are provided alongside the exposition. Some of the other features of this book are: . A comprehensive treatment of digital control theory for power converters . Verilog and VHDL sample codes . Chapters 1-6 will enable readers to successfully analyze, model, design, and implement voltage, current, or multi-loop digital feedback loops around switched-mode power converters . Practical examples are used throughout the book to illustrate applications of the techniques developed This book covers the theory and design practice of control in a comprehensive way, tackling everything from the most recent advances to the more advanced topics. .
