Pulsewidth Modulated DC-to-DC Power Conversion. Circuits, Dynamics, and Control Designs

Description:

This is the definitive reference for anyone involved in pulsewidth modulated DC-to-DC power conversion. Pulsewidth Modulated DC-to-DC Power Conversion: Circuits, Dynamics, and Control Designs provides engineers, researchers, and students in the power electronics field with comprehensive and complete guidance to understanding pulsewidth modulated (PWM) DC-to-DC power converters. Presented in three parts, the book addresses the circuitry and operation of PWM DC-to-DC converters and their dynamic characteristics, along with in-depth discussions of control design of PWM DC-to-DC converters. Topics include:

- Basics of DC-to-DC power conversion
- DC-to-DC converter circuits
- Dynamic modeling
- Power stage dynamics
- Closed-loop performance
- Voltage mode control and feedback design
- Current mode control and compensation design
- Sampling effects of current mode control

Featuring fully tested problems and simulation examples as well as downloadable lecture slides and ready-to-run PSpice programs, Pulsewidth Modulated DC-to-DC Power Conversion is an ideal reference book for professional engineers as well as graduate and undergraduate students.

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