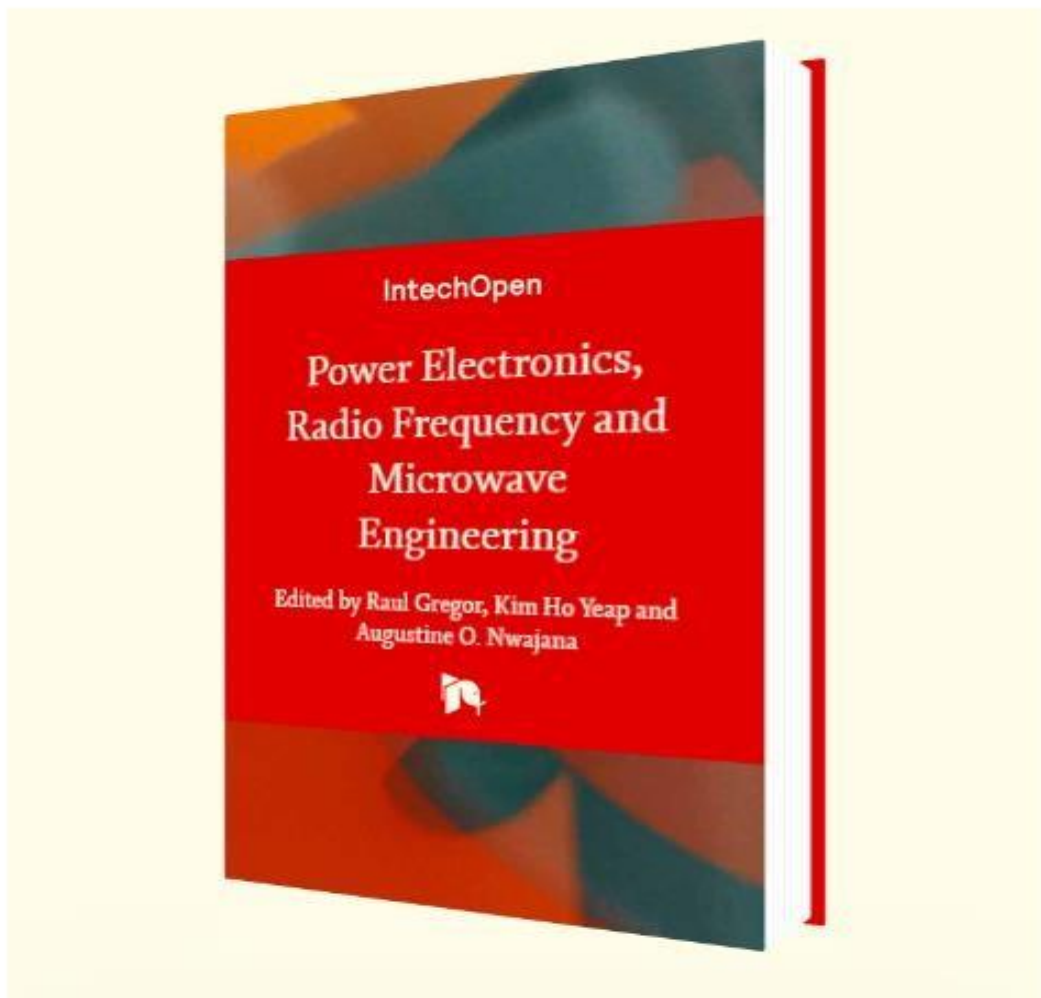


OPEN ACCESS PEER-REVIEWED EDITED VOLUME

Power Electronics, Radio Frequency and Microwave Engineering

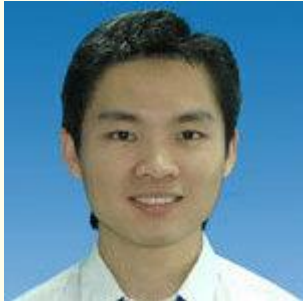


ACADEMIC EDITOR



[Raul Gregor](#)
Universidad Nacional de Asunción,
Paraguay

CO-EDITORS



[Kim Ho Yeap](#)
Universiti Tunku Abdul Rahman,
Malaysia



[Augustine O. Nwajana](#)
University of Greenwich,
United Kingdom

PUBLISHED 06 December 2023
DOI10.5772/intechopen.102312
ISBN978-1-80356-912-3
PRINT ISBN978-1-80356-911-6
EBOOK (PDF) ISBN978-1-80356-913-0
COPYRIGHT YEAR2023
NUMBER OF PAGES120

Abstract

Nowadays, the use of power converter technology has expanded into a wide range of low-, medium-, and high-power applications due to the technology's capability to efficiently manage electrical energy. In this regard, the high penetration of modern microprocessors capable of implementing high-performance nonlinear digital controllers and the recent advances in the development of high-speed switching power electronic devices, where on-state loss and consequently switching loss of power semiconductors are significantly decreased, have contributed to increased efficiency of the new power converters. As a result, the size of power converters becomes small and the power converters with less heat generation have little environmental stress. Several power converter topologies have been recently proposed in the literature for a variety of emerging applications. These novel converter topologies have different design criteria as well as particularities associated with the digital control system. This book provides a comprehensive overview of the current state of the art and addresses recent breakthroughs in a range of power converter technology, with a special emphasis on design, emerging applications, and control.

EDITED VOLUME AND CHAPTERS ARE INDEXED IN

Table of Contents

[1. Introductory Chapter: Wireless Power Transmission – An Overview](#)

By Kim Ho Yeap

[2. New Electronic Devices for Power Converters](#)

By Moufu Kong

32

[VIEW ABSTRACT](#)

[3. Automatic Current Sharing Mechanism in Two-Phase Series Capacitor Buck DC-DC Converter \(2-pscB\)](#)

By Salahaldeen A. Rmila

55

[VIEW ABSTRACT](#)

4. Overview and Advancements in Electric Vehicle WPT Systems Architecture

By Victor Oluwaferanmi Adewuyi

72

[VIEW ABSTRACT](#)

5. Iterative Technique for Analysis and Design of Circular Leaky-Wave Antenna for the 2.45 GHz RFID Applications

By Nizar Sghaier

61

[VIEW ABSTRACT](#)