1. Record Nr. UNINA9911006989803321

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Titolo	Power Electronics for Next-Generation Drives and Energy Systems : Converters and Control for Drives, Volume 1
Pubbl/distr/stampa	Paris : , : Institution of Engineering & Technology, , 2023 ©2023
ISBN	9781523153404 1523153407 9781839534706 1839534702
Edizione	[1st ed.]
Descrizione fisica	1 online resource (322 pages)
Collana	Energy Engineering Series
Altri autori (Persone)	GuerreroJosep M KasthaDebaprasad SahaTapas Kumar
Disciplina	621.31
Soggetti	Power electronics Electronic control Electric current converters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Contents -- About the editors -- 1. Characteristics and modeling of wide band gap (WBG) power semiconductor | S. Toumi -- 2. Reliability of smart modern power electronic converter systems | Rupa Mishra, Nayan Kumar, Dibyendu Sen and Tapas Kumar Saha -- 3. Next-generation electrification of transportation systems: EV, ship, and rail transport | Carlos Reusser, Hector Young and Marcelo A. Perez -- 4. Multilevel inverter topologies and their applications | Faramarz Faraji, Amir Abbas Aghajani, Mojtaba Eldoromi, Ali Akbar Moti Birjandi, Amer M.Y.M. Ghias and Honnyong Cha -- 5. Multilevel inverters: topologies and optimization | Ebrahim Babaei and Mohammadamin Aalami -- 6. GaN oscillator-based DC-AC converter for wireless power transfer applications | Anwar Jarndal -- 7. Partial power processing and its emerging applications | Naser Hassanpour, Andrii Chub, Andrei Blinov and Samir Kouro -- 8. Matrix converters -- topologies, control methods, and applications | Ebrahim Babaei and Mohammadamin

Aalami -- 9. Modelling, simulation and validation of average current and constant voltage operations in non-ideal buck and boost converters | Sumukh Surya, S. Mohan Krishna and Sheldon Williamson -- 10. Artificial intelligent-based modified direct torque control strategy: enhancing the dynamic torque response of permanent magnet electric traction | Dattatraya kalel, Harshit Mohan and R. Raja Sing -- 11. Non-parametric auto-tuning of PID controllers for DC-DC converters | Ahmed Shehada, Abdul R. Beig and Igor Boiko -- 12. Sliding mode control for DC-DC buck and boost converters | Igor Boiko and Ayman Ismail Al Zawaideh -- 13. Fractional-order controllers in power electronic converters | Allan G. S. Sanchez, Francisco J. Perez-Pinal and Martin A. Rodriguez-Licea.
14. Adjustable speed drive systems for industrial applications | Apparao Dekka, Deepak Ronanki, Ricardo Lizana Fuentes and Venkata Yaramasu -- Index.

Sommario/riassunto

The two volumes of this reference book cover power electronics for drives and energy systems for electrified transport and the development of the power grid. Volume 1 covers converters and control for drives, while Volume 2 addresses clean generation and power grids.