1. Record Nr. UNINA9910337580503321

Autore	Koodziej Joanna
Titolo	High-Performance Modelling and Simulation for Big Data Applications : Selected Results of the COST Action IC1406 cHiPSet / / edited by Joanna Koodziej, Horacio González-Vélez
Pubbl/distr/stampa	Springer Nature, 2019 Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	9783030162726 3030162729
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XIV, 352 p. 63 illus., 55 illus. in color.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 11400
Disciplina	004.24 004.11
Soggetti	Electronic digital computers—Evaluation Computer networks Microprocessors Computer architecture Application software Logic design Operating systems (Computers) System Performance and Evaluation Computer Communication Networks Processor Architectures Computer and Information Systems Applications Logic Design Operating Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Why High-Performance Modelling and Simulation for Big Data Applications Matters -- Parallelization of hierarchical matrix algorithms for electromagnetic scattering problems -- Tail Distribution and Extreme Quantile Estimation using Non-Parametric Approaches --

Towards efficient and scalable data-intensive content delivery: State-of-the-art, issues and challenges -- Big Data in 5G Distributed Applications -- Big Data Processing, Analysis and Applications in Mobile Cellular Networks -- Medical Data Processing and Analysis for Remote Health and Activities Monitoring -- Towards human cell simulation -- Cloud-based High Throughput Virtual Screening in Novel Drug Discovery -- Ultra Wide Band Body Area Networks: Design and integration with Computational Clouds -- Survey on AI-based multimodal methods for emotion detection -- Forecasting Cryptocurrency Value by Sentiment Analysis: An HPC-oriented Survey of the State-of-the-Art in the Cloud Era.

Sommario/riassunto

This open access book is the final compendium of case studies emanated from the 4-year COST Action IC1406 “High-Performance Modelling and Simulation for Big Data Applications” (cHiPSet). Funded by the European Commission from 2015, cHiPSet has created a sustainable reference network linking applied research in High Performance Computing (HPC) and Modelling & Simulation to tangibly address Big Data challenges. cHiPSet has enabled research partnerships for dozens of academics and industry practitioners located in 34 COST countries, as well as in Australia, Belarus, Brazil, China, Russia, and the USA. As a cooperation framework, cHiPSet has reached out to new audiences such as ICT professionals, commercial software developers, and the general public. At a time when Big Data has become a common household term, cHiPSet has strived to become a knowledge hub where data-driven HPC meets Modelling & Simulation. cHiPSet has also endeavoured to use and exploit results through Open Science practices, i.e., open access publication, open access to data repositories, and open-source software development. A testament to this philosophy, this compendium is set to become a required reference for the fast-changing fields of HPC, Big Data, and Modelling & Simulation.

2. Record Nr. UNINA9910547299903321

Autore	Luo Wensheng
Titolo	Advanced Control Methodologies For Power Converter Systems / / by Wensheng Luo, Yunfei Yin, Xiangyu Shao, Jianxing Liu, Ligang Wu
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-030-94289-9
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (218 pages) : illustrations (chiefly color)
Collana	Studies in Systems, Decision and Control, , 2198-4190 ; ; 413
Disciplina	621.313
Soggetti	Automatic control Electric power production Artificial intelligence Control and Systems Theory Electrical Power Engineering Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- State Estimation and Control of Three-Phase Two-Level Converters via Sliding Mode -- Adaptive Control of Buck Converters -- Conclusion and Further Work.
Sommario/riassunto	This book aims to present some advanced control methodologies for power converters. Power electronic converters have become indispensable devices for plenty of industrial applications over the last decades. Composed by controllable power switches, they can be controlled by effective strategies to achieve desirable transient response and steady-state performance, to ensure the stability, reliability and safety of the system. The most popular control strategy of power converters is the linear proportional–integral–derivative series control which is adopted as industry standard. However, when there exist parameter changes, nonlinearities and load disturbances in the system, the performance of the controller will be significantly degraded. To overcome this problem, many advanced control methodologies and techniques have been developed to improve the converter performance. This book presents the research work on some

advanced control methodologies for several types of power converters, including three-phase two-level AC/DC power converter, three-phase NPC AC/DC power converter, and DC/DC buck converter. The effectiveness and advantage of the proposed control strategies are verified via simulations and experiments. The content of this book can be divided into two parts. The first part focuses on disturbance observer-based control methods for power converters under investigation. The second part investigates intelligent control methods. These methodologies provide a framework for controller design, observer design, stability and performance analysis for the considered power converter systems. .