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Nota di contenuto	Emulation of Wind Turbine for Standalone Wind Energy Conversion Systems -- The ripple correlation optimal point determination in a medium power wind conversion system and performance evaluation with respect to conventional algorithms -- Direct Power Control of DFIG Using Sliding Mode Control Approach -- Photovoltaic power prediction using recurrent neural network -- Control of Wind Turbine based on PMSG using Pitch Angle Control -- Feedback T-S fuzzy controller in finite frequency for wind turbine -- Control of Power of a DFIG Generator with MPPT Technique for Wind Turbines Variable Speed -- A Comparative study between PI and sliding mode control for the DFIG of a wind turbine -- A comprehensive Comparison of two Behavior MPPT Techniques, the Conventional (Incremental Conductance (INC)) and Intelligent (Fuzzy Logic Controller (FLC)) for Photovoltaic Systems -- Modeling and performance analysis of a solar PV power system connected to a three phase load under irradiation and load variations -- Intelligent Load Frequency Control in Presence of Wind Power Generation -- ZedBoard-FPGA Control of the DFIG based Wind Power System -- An FPGA-based control of the PMSG on Variable Wind Speed Turbine -- Modeling and Comparison of Boost Converter With

Cascaded Boost Converters -- Fault Tolerant Control of Switch Power Converter In WECS Based on a DFIG -- SSDI-Max control and its applications in renewable -- Nonlinear Control of variable speed Wind Energy Conversion System based PMSG.

Sommario/riassunto

Most of the research and experiments in the fields of modeling and control systems have spent significant efforts to find rules from various complicated phenomena by principles, observations, measured data, logic derivations. The rules are normally summarized as concise and quantitative expressions or “models”. “Identification” provides mechanisms to establish the models and “control” provides mechanisms to improve system performances. This book reflects the relevant studies and applications in the area of renewable energies, with the latest research from interdisciplinary theoretical studies, computational algorithm development to exemplary applications. It discusses how modeling and control methods such as recurrent neural network, Pitch Angle Control, Fuzzy control, Sliding Mode Control and others are used in renewable systems. It covers topics as photovoltaic systems, wind turbines, maximum power point tracking, batteries for renewable energies, solar energy, thermal energy and so on. This book is edited and written by leading experts in the field and offers an ideal reference guide for researchers and engineers in the fields of electrical/electronic engineering, control system and energy.
