Photovoltaic Power System: Modeling, Design, and Control

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DESCRIPTION

Photovoltaic Power System: Modelling, Design and Control is an essential reference with a practical approach to photovoltaic (PV) power system analysis and control. It systematically guides readers through PV system design, modelling, simulation, maximum power point tracking and control techniques making this invaluable resource to students and professionals progressing from different levels in PV power engineering.

The development of this book follows the author's 15-year experience as an electrical engineer in the PV engineering sector and as an educator in academia. It provides the background knowledge of PV power system but will also inform research direction.

Key features:

• Details modern converter topologies and a step-by-step modelling approach to simulate and control a complete PV power system.

• Introduces industrial standards, regulations, and electric codes for safety practice and research direction.

• Covers new classification of PV power systems in terms of the level of maximum power point tracking.

• Contains practical examples in designing grid-tied and standalone PV power systems.

• Matlab codes and Simulink models featured on a Wiley hosted book companion website.
ABOUT THE AUTHOR

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Weidong Xiao is an Associate Professor within the University of Sydney’s School of Electrical and Information Engineering. His research interests include PV power systems, power electronics, dynamic systems and control, and industry applications.

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