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Subject: New Book Review
Title: “Renewable Energy Systems: design and analysis with induction generators”
Authors: M. Gody Simoes and Felix A. Farret
Publisher: CRC Press, Boca Raton, Florida, 2004, 358pp

The subject of this new book is very important as renewable energy systems is the way of the future in meeting fast growing energy demands with evermore environmental constraints.

As the authors have made important contributions to the field, their book is full of substance and well organized. They preferred to go deep into one type of electric generator (the induction type) and provide solid ground for the analysis and design of such generators with their power electronics control. The book thus serves primarily the senior or graduate student and faculty or R&D engineer who is busy trying to design or improve on renewable energy systems, so needed today and in the near future.

The book is structured into 13 Chapters that treat in notable detail:
* principles of renewable energy sources and electric generators(Chapter 1)
* the steady state model of induction generators(Chapter 2)
* the transient model of induction generators(Chapter 3)
* the self-excited induction generator(Chapter 4)
* general characteristics of induction generators(Chapter 5)
* construction features of induction generators(IG)-(Chapter 6)
* power electronics for interfacing IGs(Chapter 7)
* scalar control of IGs(Chapter 8)
* vector control of IGs(Chapter 9)
* optimized control of IGs(Chapter 10)
* wound-rotor IG systems(Chapter 11)
* simulation tools for IGs(Chapter 12)
* economics of IG-based renewable systems(Chapter 13)

Each Chapter starts with basic knowledge and then reaches out to recent solutions ,all illustrated with plenty of numerical examples and digital simulations that bring a strong feeling of magnitudes and of practicality. In terms of up to date knowledge, handled elegantly, we emphasize here Chapters7-10 which deal with power electronics control methods for IGs. Also Chapter 13 stands out by its numerous digital simulation tools, illustrated with lots of results.

The researcher, the designer and the manager of renewable energy systems should all have this book on their shelf and use it time and again, after a very thorough first reading.

Sincerely,
Ion Boldea.