New book review

"OPTIMAL CONTROL OF WIND ENERGY SYSTEMS": towards a global approach
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Green energy is by now a global climate and economic issue, and more wind electric energy is a key solution, together with tapping of still available hydro-energy reserves. The main technical issue with wind to electric energy conversion is the contradiction between the irregular (random) wind energy to harness and the electric power quality very demanding indexes.
Among the few recent books on wind energy, the present one distinguishes itself by concentrating on optimal control of wind energy conversion, mechanical reliability and electric power quality.
But to reach to optimal control, the book introduces solid knowledge related to representative wind energy conversion systems, their modeling, basic control of wind turbines and of electric generators and design approaches to optimal control such as:

- maximum point tracking, PI control, on-off control, sliding mode control, feedback linearization control and QFT robust control (chapters 1-5)
- Chapter 6 treats optimal control with mixed criteria such as: LQ control, frequency separation control and LFSP control with rigidly coupled generator.
- Electromechanical simulations for wind energy conversion systems, such as HIL, with case studies, and real time physical simulations are treated in chapter 7.

The book ends with general conclusion and useful appendixes.
The numerous case studies, with results from a representative literature and from authors rich experience in the field (with access to RISO Labs in Denmark), makes the book balanced, up to date and thus very beneficial to all involved in wind energy conversion.

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