Editorial

Wind Energy

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Clean energies are becoming the major energy resources of the future. Wind power does not generate pollution and is a clean source. Recent engineering advances in wind energy production have contributed to the successful solution of real problems thus improving the quality of life. This special issue aims at gathering research works focusing on the development of mathematical model for the recent developments of wind energy. X. Zhang, in the paper “*Transient simulation of wind turbine towers under lightning stroke*,” proposed a simulation algorithm for lightning transient analysis of the wind turbine (WT) towers. N. Haouas and P. R. Bertrand, in their paper “*Wind farm power forecasting*,” studied the relationship between the power productions to avoid interaction between each turbine of the farm. H. Coral-Enriquez et al., in their paper “*Robust active disturbance rejection control approach to maximize energy capture in variable-speed wind turbines*,” proposed an alternative robust observer-based linear control technique to maximize energy capture in a 4.8 MW horizontal-axis variable-speed wind turbine. N. Chen et al., in their paper “*Multistep wind speed forecasting based on wavelet and Gaussian processes*,” proposed a novel W-GP model (wavelet decomposition based Gaussian process learning paradigm) for short-term wind speed forecasting. Z. W. Geem and J. Hong, in their paper “*Improved formulation for the optimization of wind turbine placement in a wind farm*,” proposed an efficient optimization formulation for the optimal layout of wind turbine placements under the resources (e.g., number of turbines) or budget limit by introducing corresponding constraints. L. A. Soriano et al.,

in their paper “*Modeling and control of wind turbine*,” studied the characteristics of the wind turbine in the market and lab; it is focused on the recent advances of the wind turbine modeling with the aerodynamic power, and the wind turbine control with the nonlinear, fuzzy, and predictive techniques.

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