Record Nr. UNINA9910404077203321 Autore Castellani Francesco Titolo Wind Turbine Power Optimization Technology MDPI - Multidisciplinary Digital Publishing Institute, 2020 Pubbl/distr/stampa **ISBN** 3-03928-934-9 Descrizione fisica 1 electronic resource (138 p.) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto Wind turbines are one of the most promising renewable energy technologies, and this motivates fertile research activity about developments in power optimization. This topic covers a wide range of aspects, from the research on aerodynamics and control design to the industrial applications about on-site wind turbine performance control and monitoring. This Special Issue collects seven research papers about several innovative aspects of the multi-faceted topic of wind turbine power optimization technology. The seven research papers deal respectively with the aerodynamic optimization of wind turbine blades through Gurney flaps; optimization of blade design for large offshore wind turbines; control design optimization of large wind turbines through the analysis of the competing objectives of energy yield maximization and fatigue loads minimization; design optimization of a tension leg platform for floating wind turbines; innovative methods for the assessment of wind turbine optimization technologies operating on site; optimization of multiple wake interactions modeling through the introduction of a mixing coefficient in the energy balance method; and optimization of the dynamic stall control of vertical-axis wind turbines through plasma actuators. This Special Issue presents remarkable research activities in the timely subject of wind turbine power

industry.

optimization technology, covering various aspects. The collection is believed to be beneficial to readers and contribute to the wind power