Record Nr. UNINA9910798927503321 Autore Schmitz Sven <1976-> Titolo Aerodynamics of wind turbines: a physical basis for analysis and design / / Sven Schmitz Pubbl/distr/stampa Hoboken, New Jersey;; Chichester, West Sussex, England:,: Wiley,, [2020] ©2020 **ISBN** 1-119-40559-9 1-119-40564-5 Descrizione fisica 1 online resource (433 pages) 621.45 Disciplina Soggetti Wind turbines - Aerodynamics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Sommario/riassunto "Aerodynamics of Wind Turbines: A Physical Basis for Analysis and Design is a self-contained textbook on the aerodynamics, scaled design and analysis, and optimization of horizontal-axis wind turbines and is closely integrated with XTurb design and analysis software. XTurb is an easy-to-use software, designed by the author, and all XTurb input decks are available on a companion website for individual analyses and future studies. This adds a 'hands-on' component to the book, thus enhancing the learning experience to readers and resulting in a deeper and more complete understanding of the subject matter. This book covers the fundamentals and basic physics before moving onto progressively more complex models that will enable the reader to build/use models effectively for turbine analysis and design. It Includes a unique chapter on designing scaled experiments in both wind-/water tunnels for wind turbine and rotorcraft applications and demonstrates how analysis and design principles can be applied to a variety of different applications and operating conditions. Aerodynamics of Wind

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