1. Record Nr. UNINA9910140640303321 Autore Zhang Matthew Huaiquan Titolo Wind resource assessment and micro-siting: science and engineering / / Matthew Huaiquan Zhang Pubbl/distr/stampa Singapore:,: China Machine Press:,: Wiley,, 2015 ©2015 **ISBN** 1-118-90013-8 1-118-90011-1 Descrizione fisica 1 online resource (389 p.) Disciplina 621.312136 Soggetti Wind power Wind power plants Renewable energy sources Winds - Measurement Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references at the end of each chapters and Nota di bibliografia index. Nota di contenuto Title Page; Copyright; Table of Contents; Preface; Introduction; Acknowledgments: About the Author: List of Symbols: Chapter 1: Introduction; 1.1 Wind Resource Assessment as a Discipline; 1.2 Micrositing Briefing; 1.3 Cascade of Wind Regime; 1.4 Uncertainty of Wind Resource; 1.5 Scope of the Book; References; Chapter 2: Concepts and Analytical Tools; 2.1 Surface Roughness and Wind Profile; 2.2 Speed-up Effect of Terrain; 2.3 Shelter Effect of Obstacles; 2.4 Summary; References; Chapter 3: Numerical Wind Flow Modelling; 3.1 Modelling Concept Review; 3.2 Linearised Numerical Flow Models 3.3 Mass-Consistent Models3.4 CFD Models; 3.5 Meso Scale NWP Models; 3.6 Inherent Uncertainties in Wind Flow Modelling; 3.7 Summary; References; Chapter 4: Wind Park Physics and Micro-siting; 4.1 Wind Power Density; 4.2 Wind Power Conversion; 4.3 Wind Turbine Wake Effects; 4.4 Wind Turbine Micro-siting; 4.5 Summary; References; Chapter 5: Wind Statistics: 5.1 Statistics Concepts Review: 5.2 Wind

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