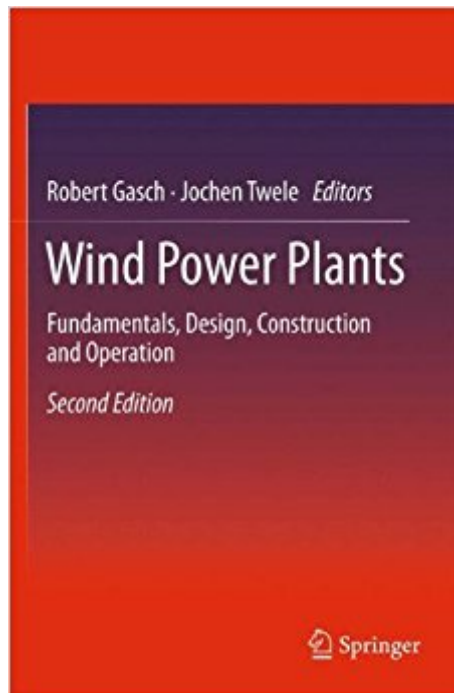




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Wind Power Plants: Fundamentals, Design, Construction And Operation



Synopsis

Wind power plants teaches the physical foundations of usage of Wind Power. It includes the areas like Construction of Wind Power Plants, Design, Development of Production Series, Control, and discusses the dynamic forces acting on the systems as well as the power conversion and its connection to the distribution system. The book is written for graduate students, practitioners and inquisitive readers of any kind. It is based on lectures held at several universities. Its German version it already is the standard text book for courses on Wind Energy Engineering but serves also as reference for practising engineers.

Book Information

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Customer Reviews

From the reviews of the second edition: "This book was intended for graduate students, practitioners and anyone interested in the subject. It is well organized and gives the reader enough information to read the book without having any specialized knowledge on wind energy. Illustrations are plentiful and very good, and equations are clearly stated and easily followed. Furthermore, there are a great number of references at the back of each chapter. It is a great tool for students, practitioners, and engineers." (Panos Economou, Noise Control Engineering Journal, Vol. 60 (4), July-August, 2012)

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like Construction of Wind Power Plants, Design, Development of Production Series, Control, and discusses the dynamic forces acting on the systems as well as the power conversion and its connection to the distribution system. The book is written for graduate students, practitioners and inquisitive readers of any kind. It is based on lectures held at several universities. Its German version it already is the standard text book for courses on Wind Energy Engineering but serves also as reference for practising engineers.

This book is good only as a reference. It has a considerable amount of mostly theoretical information, but the latter should have been ordered much better, specially more fluidly. The Index is only five pages long, with about 35 entries on each page, and it also needs to be enlarged if it is to be really helpful. The chapter on Windpumping Systems should be replaced with something more in line with the title of the book: "Wind Power Plants," which implies electrical power.

I have this 2 of Gasch book include 1st edition. It's must-have item for windpower engineer. The basic's of wind turbine is explained very well!!

Great

This First Edition in English is based on the 3rd German edition from 1996! The Second English Edition, based on a German version from 2006 is currently available. Much of the content is the same but since the Second edition is available at virtually the same price go buy that one, it is a very good book!

I chose this book because I wanted to learn in depth about large wind turbine technology, and I regard the authors as true experts on the subject. My professional background: Ph.D. in physics, professional experience as an engineer and with installation of small wind turbines up to 10 kW. At less than 400 pages this book could easily have had three times its current volume. The authors cannot be complimented enough for restraining themselves and keeping the book short. I was especially impressed by the elegance of their mathematical analysis throughout the book. One can only wonder about the mental effort necessary in order to present the essential material in such a short and precise manner. There are a few typos in the formulas. Also, this book definitely requires some background in physics (classical mechanics, fluid dynamics), math (calculus, differential equations) and engineering (methods, concepts). Therefore the book is not really suitable as a first

introduction to wind power in my opinion, unless you are a true genius. The inevitable drawback of the short and precise mathematical derivations is that many concepts and formulas must be taken for granted by the reader. This is perfectly fine for the engineer but less appealing to the scientist. However, detailed footnotes and sources at the end of each chapter should enable the reader to dive as deep as he or she wishes. Although the authors have probably forgotten more on the subject than I will ever learn, I would like to finish with some constructive criticism: First, the book describes several academic projects of the TU Berlin which are pretty irrelevant for the rest of the world. Secondly, the book almost completely ignores the small but perceptible commercial success of small wind power plants either off-grid or in distributed generation. Third, the book wastes a whole chapter on mechanical wind pumping systems which imo really do not belong into it. That technology is pretty much a stillborn child, anyway, because wind is found up high and water down low. A tried and proven purely mechanical design - where feasible - has been known for more than a century in the form of the American farm windmill. The authors later briefly mention wind-electric pumping applications, which manage to avoid the above fundamental technical problem and would fit much better in with the book's title. Finally, the book would benefit from some detailed datasheets and in-depth comparisons of competing manufacturer's technologies in the medium power class. The table on page 341 is a very encouraging first step in that direction. Overall this book is a great value for its money and will have a secure place in my library. I can't wait for a revised edition which will hopefully incorporate the latest trends and developments in this complex, rapidly developing technology.

If you are a Wind Power Generation enthusiast this book is for you! However I must warn you there is need for a some-how high mathematical knowledge in order to grasp the concepts described, such as: trigonometry, geometry, derivatives, integrals, graphics interpretation, etc. It requires to know and understand the basic Physics formulae for: thrust, work, acceleration (Newton's 2nd law), polar inertia, impetus, etc. This is a very technical book intended for Engineers or Technicians. If that is not an issue for you, this is a must have!

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