

Preface

The study for this book was carried out during my Ph.D. in the period between June 2010 and April 2013, at Department of Energy Technology in Aalborg University, Denmark. Sophisticated industry and long-term academic focus on wind power is one of the reasons I came here to do this research. After 3 years of unforgettable researches and experiences, I start to realize that the large-scale utilization of wind energy could be far more challenging than I expected. And more importantly, many of the problems as well as the technology potentials may have not been uncovered yet in this field.

The purpose of this work is to study the power electronics used for the next generation wind turbine system. Some criteria and tools for evaluating and improving the critical performances of wind power converters have been proposed and established. It is the hope of the author that this book can address some emerging problems as well as possibilities for wind power conversion, and become an inspired reference for researchers in this field.

I would like to show grateful thanks to Prof. Frede Blaabjerg for the impressive and fruitful discussion during this study. The constructive discussions, patient corrections, and also continuous encouragements not only contribute to this work, but also have great influences on my researching, networking, managing, and supervising. Furthermore, I would like to sincerely acknowledge Prof. Marco Liserre from Kiel University, Germany, for his inspired suggestions and invaluable help during this work. I also want to show regard to Prof. Dehong Xu from Zhejiang University, China for his supports and concerns, which are precious for my staying in Denmark.

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