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**Energy : Transportation**

Hölling, M., Peinke, J., Ivanell, S. (Eds.)

# Wind Energy - Impact of Turbulence

- Recent research on Wind Energy
- Presents the Impact of Turbulence on Wind Energy
- Written by leading experts in the field

This book presents the results of the seminar "Wind Energy and the Impact of Turbulence on the Conversion Process" which was supported from three societies, namely the EUROMEch, EAWE and ERCOFATC and took place in Oldenburg, Germany in spring 2012. The seminar was one of the first scientific meetings devoted to the common topic of wind energy and basic turbulence. The established community of researchers working on the challenging puzzle of turbulence for decades met the quite young community of researchers, who face the upcoming challenges in the fast growing field of wind energy applications. From the fluid mechanical point of view, wind turbines are large machines operating in the fully turbulent atmospheric boundary layer. In particular they are facing small-scale turbulent inflow conditions. It is one of the central puzzles in basic turbulence research to achieve a fundamental understanding of the peculiarities of small-scale turbulence. This book helps to better understand the resulting aerodynamics around the wind turbine's blades and the forces transmitted into the machinery in this context of puzzling inflow conditions. This is a big challenge due to the multi-scale properties of the incoming wind field ranging from local flow conditions on the profile up to the interaction of wake flows in wind farms.

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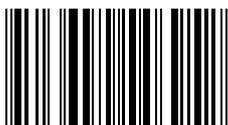
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