Special Issue

Probabilistic Methods for Design and Planning of Operation and Maintenance of Wind Turbines

Message from the Guest Editors

Probabilistic design of wind turbines can be based on the general decision making levels for engineering design as stated in ISO2394:2015, these are: 1) risk-informed decision making; 2) reliability-based decision making (probabilistic design); 3) semi-probabilistic approach (using partial safety factors). For the probabilistic design of wind turbines, reliability analyses are essential to be carried out for critical components in a wind turbine, which can be divided into three categories of structural, mechanical and electrical components. Design load cases to be considered in probabilistic design includes: fatigue, extreme loads during operation, in parked position and in fault conditions. For offshore wind turbines costs to Operation and Maintenance (OM) can be significant contributors to the Levelized Cost of Energy (LCOE). OM costs are highly dependent on the reliability of components and systems. Papers for this Special Issue should focus on probabilistic design, reliability assessment and reliability- and risk-based planning of OM for wind turbines.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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