



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

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Message from the Guest Editors

Dear Colleagues,

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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