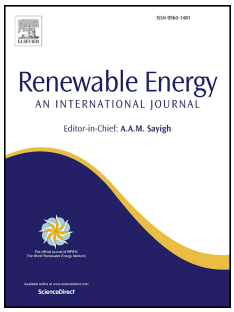

Uncertainty modeling in reliability analysis of floating wind turbine support structures

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Uncertainty modeling in reliability analysis of floating wind turbine support structures

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Highlights:

- A novel reliability framework to understand the reliability of FWTs is proposed.
- The influence of nonlinear behaviour of coupled FWT is efficiently captured.
- Computationally efficient surrogate models are developed for failure functions.
- Kriging uncertainty is evaluated and implemented for improved reliability estimates.
- The proposed approach is one of the initial steps towards optimally designed FWTs.

Declaration of interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☐The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: