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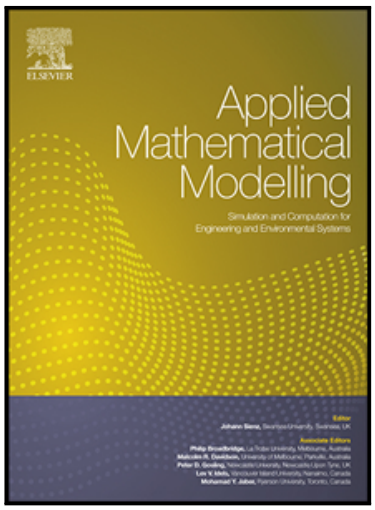

A 3D model for static and dynamic analysis of an offshore knuckle boom crane

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Highlights

- The overload dynamic coefficient during hoist acceleration or deceleration is calculated using two different approaches.
- Vertical and horizontal deflections of the crane are analysed.
- The flexibilities of the rope system, booms and cylinders are taken into account.
- Acceptable compatibility of numerical results and experimental measurements is achieved.
- Due to its effectiveness the model is used by engineers in the design process of offshore appliances.

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