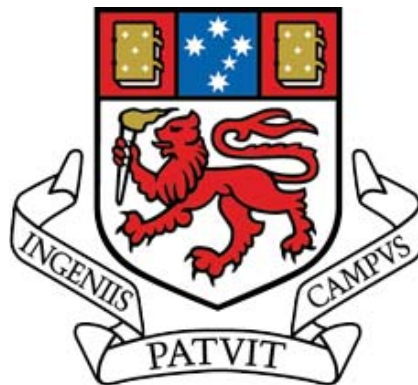


THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Predictions of Hydrodynamics of a Conceptual FLNG-LNG Offloading System



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Launceston, Australia
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Declarations

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief, no material previously published or written by another person, except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyrights.

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Date 23/09/2015

Statement of Co-Authorship

The candidate has carried out simulations and analysis under the supervision of co-authors. The papers in this document were written and revised by the candidate following the suggestions and comments from the co-authors. The following people and institutions contributed to the publication of work undertaken as part of this thesis:

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For all listed publications, the estimated percentage contribution of the candidate is 80%.

We the undersigned agree with the above stated proportion of work undertaken for each of the above published (or submitted) peer-reviewed manuscripts contributing to this thesis.

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List of Publications

Peer-Reviewed Journal Papers

[1] Jin, Y., Chai, S., Duffy, J., Chin, C., Bose, N., & Templeton, C. (2016). RANS prediction of FLNG-LNG hydrodynamic interactions in steady current. *Applied Ocean Research*, 60, 141-154.

[2] Jin, Y., Chai, S., Duffy, J., Chin, C., & Bose, N. (2017). URANS predictions of wave induced loads and motions on ships in regular head and oblique waves at zero forward speed. *Journal of Fluids and Structures* 74, 178-204.

[3] Jin, Y., Duffy, J., Chai, S., Chin, C., & Bose, N. (2016). URANS study of scale effects on hydrodynamic manoeuvring coefficients of KVLCC2. *Ocean Engineering*, 118, 93-106.

Peer-Reviewed Conference Papers

[1] Jin, Y., Chai, S., Duffy, J., Chin, C., & Bose, N. (2016). Experimental Study of Wave Induced Loads and Motions on FLNG in Head and Oblique Sea Waves. Paper presented at the ASME 2016 35th International Conference on Ocean, Offshore and Arctic Engineering.

[2] Jin, Y., Chai, S., Duffy, J., Chin, C., Bose, N., & Sun, L. (2016). URANS Prediction of Ship Hydrodynamics in Head Sea Waves at Zero Forward Speed with Model Testing Validation. Paper presented at the ASME 2016 35th International Conference on Ocean, Offshore and Arctic Engineering.

[3] Jin, Y., Chai, S., Duffy, J., Chin, C., & Bose, N. (2015). Scale Effects on Hydrodynamic Manoeuvring Force Prediction. Paper presented at the Twenty-fifth International Offshore and Polar Engineering Conference.