Accepted Manuscript

An Empirical Formulation for Predicting the Dynamic Ultimate Strength of Rectangular Plates under In-plane Compressive Loading

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PII: S0020-7403(18)30435-1
DOI: 10.1016/j.ijmecsci.2018.04.015
Reference: MS 4270

To appear in: *International Journal of Mechanical Sciences*

Received date: 7 February 2018
Revised date: 24 March 2018
Accepted date: 9 April 2018

Please cite this article as: Bin Yang , C. Guedes Soares , De- yu Wang , An Empirical Formulation for Predicting the Dynamic Ultimate Strength of Rectangular Plates under In-plane Compressive Loading, *International Journal of Mechanical Sciences* (2018), doi: 10.1016/j.ijmecsci.2018.04.015

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Highlights

- The results show that the dynamic ultimate compressive loads increase with the increase of strain rates.
- The empirical formulation proposed in the present paper can be used to predict the dynamic compressive ultimate strength of ship plates under dynamic in-plane loads.
- The developed method was applied to the outer bottom plate of container ships and an oil tanker successfully.
- Nonlinear material model in terms of the relationship between stress and strain is considered in the paper.

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