

		Journal of the Japan Society of Naval Architects and Ocean Engineers			
		<i>The Japan Society of Naval Architects and Ocean Engineers</i>			
Available Volumes	Japanese			>> Publisher Site	
Author:	<input type="text"/>	ADVANCED	Volume	Page	
Keyword:	<input type="text"/>	<input type="button" value="Search"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Go"/>



[TOP](#) > [Available Volumes](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1881-1760

PRINT ISSN : 1880-3717

Journal of the Japan Society of Naval Architects and Ocean Engineers

Vol. 7 (2008) pp.233-241

[\[PDF \(688K\)\]](#) [\[References\]](#)

Change in Safety Level against Collapse of Ship's Hull Girder in Longitudinal Bending According to Change in Design Criteria

[Yasunari Fujii](#), [Kazuhiro Iijima](#), [Yuichi Nagase](#) and [Tetsuya Yao](#)

(Accepted December 6, 2007)

Summary: Choosing four Panamax-size bulk carriers and four Aframax-size oil tankers designed by different criteria in different times, reliability analysis has been performed to compare their safety levels from the viewpoint of ultimate hull girder strength in longitudinal bending. For evaluation of the ultimate hull girder strength and its sensitivities with respect to design parameters, a series of progressive collapse analysis is performed applying the Smith's Method. On the other hand, applying the nonlinear Strip Method, time-dependent nonlinear ship motion analysis is performed to estimate wave-induced bending moment. On the basis of the obtained time history of wave bending moment, statistic characteristics of the extreme bending moment is estimated. Utilising the calculated results, reliability index and failure probability are calculated applying the First Order Reliability Method (FORM). Investigating into the obtained results, it has been found that in general the safety level becomes higher with the times depending on the design criteria.

[\[PDF \(688K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Yasunari Fujii, Kazuhiro Iijima, Yuichi Nagase and Tetsuya Yao: Change in Safety Level against Collapse of Ship's Hull Girder in Longitudinal Bending According to Change in Design Criteria, Journal of the Japan Society of Naval Architects and Ocean Engineers, (2008), Vol. 7, pp.233-241.



[Japan Science and Technology Information Aggregator, Electronic](#)

