Capacity of surface warship's protective bulkhead subjected to

blast loading(PDF)

《船舶与海洋工程学报》[ISSN:1002-2848/CN:61-1400/f] 期数: 2009年01 页码: 13-17 栏目: 出版日期: 2009-03-25

Title: Capacity of surface warship's protective bulkhead subjected to blast

loading

作者: 彭兴宁; 聂 武; 严 波

Author(s): PENG Xing-ning; NIE Wu and YAN Bo

1. College of Shipbuilding Engineering, Harbin Engineering University, Harbin 150001,

China 2. China Ship Scientific Research Center, Wuxi 214023, China.

关键词: protective bulkhead; blast loading; energy method

分类号: -

DOI: -

文献标识码: A

摘要: The protective bulkhead of the large surface warship need to be designed working in

the membrane mode. In this paper, a formula is derived for calculating the plastic deformation of the protective bulkhead subjected to blast loading by the energy method, and the ultimate capability of the protective bulkhead can be calculated.

The design demand of the protective bulkhead is discussed. The calculation is compared with external experiments, which indicates that the formula is of great

application value.

导航/NAVIGATE
本期目录/Table of Contents
下一篇/Next Article
上一篇/Previous Article
工具/TOOLS
コロナナサナ京/Poforoncos

引用本文的文章/References 下载 PDF/Download PDF(241KB) 立即打印本文/Print Now

推荐给朋友/Recommend

统计/STATISTICS	
摘要浏览/Viewed	512
全文下载/Downloads	384
评论/Comments	

RSS XML

参考文献/REFERENCES

- [1] ZHU Xi, FENG Wenshan. Summary of the naval large non-symmetry armor-structure protective system[J]. Journal of Naval University of Engineering, 1993, 65 (4): 50-56(in Chinese).
- [2] ZHANG Zhenhua, ZHU Xi, HUANG Yuying, et al. Theoretical research on the defense of cabin near shipboard of surface warship subjected to underwater contact explosion[J]. Journal of Ship Mechanics, 2006, 10(1): 113-119(in Chinese).
- [3] HUGHES O F. Ship structural design[M]. Translated by Zhang Yangxiao. Guangzhou: Press of Huanan University of Sci. & Tech., 1988: 350-360.
- [4] LIU Tuguang, HU Yaowu, ZHENG Jijia. Dynamic response analysis of rigid perfectly plastic clamper square plates with stiffener subjected to blast loading[J]. Journal of Explosion and Shock Waves, 1994, 14(1): 55-65(in Chinese).
- [5] TANG Wenyong, CHEN Tieyun. An analysis of dynamic plastic response of stiffener plates[J]. Journal of Shanghai Jiaotong University, 1996, 30(8): 73-80(in Chinese).
- [6] XU Zhilun. Elastic Mechanics[M]. Beijing: Higher Education Press, 1982: 486-497.
- [7] WU Yousheng, PENG Xingning, ZHAO Benli. Plastic deformation and damage of naval panels subjected to explosion loading[J]. Journal of China Shipbuilding, 1995, 11(4): 55-61(in Chinese).
- [8] HOULSTON R, SLATER J E, RITZED D V. Damage assessment of naval steel panels subjected to tree-field and enhanced air-blast loading[M]. Advances in Marine Structures-2, Elsevier Science Publishers Ltd., 1993.
- [9] ZHANG Zhenhua. Research of the naval structural capacity against underwater explosion[D]. Wuhan: Naval University of Engineering, 2004: 65-70(in Chinese).
- [10] JIN Yan. Damage assessment of the clamped square plate subjected to underwater-blast shock wave[D]. Beijing: Beijing University of Technology, 2003: 55(in Chinese).

备注/Memo: -