

江苏船舶

JIANGSU SHIP

ISSN 1001-5388

CN 32-1230/U

2022年6月

3

江苏省交通运输厅
江苏省造船工程学会
江苏省船舶设计研究所

主管
主办

双月刊 第39卷 第3期 总第209期

江苏通洋船舶有限公司

广告



■ 全铝合金15 m高速救助艇



■ 20米级公安艇

ISSN 1001-5388



9 771001 538229

江苏通洋船舶有限公司

地址：江苏省金坛市金城镇上庄圩门288号

杨光辉（董事长）0519-82858888 18901490000

傅根保（总经理）0519-82850298 18901492788

网址：www.tongyangship.com

邮箱：ceo@tongyangship.com

邮箱：manager@tongyangship.com

江苏船舶

JIANGSU CHUANBO

江苏省造船工程学会会刊

2022 年第 3 期

(1980 年创刊 双月刊)

第 39 卷第 3 期 · 总第 209 期

2022 年 6 月 30 日出版



主管单位：江苏省交通运输厅

主办单位：江苏省造船工程学会

江苏省船舶设计研究所

编辑出版：《江苏船舶》编辑部

主 编：戴雪良

副 主 编：韩海林

地 址：镇江市正东路 5 号

电 话：0511 - 84422493

传 真：0511 - 84422493

电子信箱：jscbbjb@163.com

网站地址：<http://jscb.cbpt.cnki.net>

邮政编码：212003

发行单位：《江苏船舶》编辑部

内芯印刷：镇江新民洲印刷有限公司

中国标准刊号：ISSN 1001 - 5388
CN32 - 1230/U

广告经营许可证号：3211005050010

发行范围：公开发行

定价：10.00 元/册

目 次

船舶设计与研究

- JS 2022 - 3 - 01 基于 CFD 的液舱晃荡与船舶耦合运动数值
模拟 苑中排 王富超 刘 一 朱仁庆(1)
- JS 2022 - 3 - 02 LNG 再气化模块动设备基础及支撑结构振动
研究 张丽华 诸俊楷 徐海涛(5)
- JS 2022 - 3 - 03 风电安装船坐底强度有限元计算
闫方超 郭 婷 关 婕(8)
- JS 2022 - 3 - 04 双燃料客滚船的能效指数分析
陈 登 俞 剑 付翥翥 巴雅尔图(12)
- JS 2022 - 3 - 05 基于显式动力学有限元法的球鼻艏碰撞机理
研究 王付鹏 张岳林(15)
- JS 2022 - 3 - 06 港航工作艇生活楼重量重心对振动影响研究
濮天欢(18)
- JS 2022 - 3 - 07 新型穿浪船舶在单体高速艇上的应用研究
刘自浩 马晓东 冷学华 刘 川(21)
- JS 2022 - 3 - 08 3 000 t 起重船扒杆结构强度有限元分析
梁 鹏 邓映雪 张雨晨 李 磊 万宇飞(24)
- JS 2022 - 3 - 09 新型 50 000 t 油船舵系设计流程 李文亮(27)

船舶动力装置

JS 2022-3-10 某客滚船长轴系回旋振动问题分析和解决

赵自兵 殷星杰 吴林(30)

JS 2022-3-11 水面无人装备联动捕捉机构设计分析

赵明清 钱冬林(35)

船舶建造

JS 2022-3-12 三桩吸力筒导管架风机基础建造方案可行性分析

林汉城 华宏旭 陈伶翔(38)

JS 2022-3-13 基于 WBS 的船舶建造标准工时数据挖掘方法研究

朱小敏 王炬成 周红(41)

JS 2022-3-14 船舶淡水舱结构报检和喷涂底漆工艺改进

林清(44)

企业管理

JS 2022-3-15 资源主导的造船多项目计划管理研究

张一弛 赵东 罗凡琳 陈宇 陈陆敏(46)

JS 2022-3-16 迈尔豪华邮轮建造的生产组织模式与启示

张琦 石晶 张曙光 刘斌(50)

广告索引

江苏通洋船舶有限公司 (封面)

江苏远洋电子科技有限公司 (封二)

江苏大津重工有限公司 (封三)

江苏润扬船业有限公司 (封底)

江苏省船舶设计研究所有限公司 (扉页)



第八届编委会

主任:方建华

副主任:葛世伦 张志强 徐斌 包国齐
戴雪良

委员:

马乔林	马荣飞	方建华	王立柱
王如华	王国东	王洪琪	王峰
王铁	王樟木	邓志良	包国兴
包国齐	生佳根	刘建忠	刘维亭
华锦伟	吕津	孙锁庆	朱广明
朱仁庆	祁学胜	张卫东	张光明
张志强	张依莉	张雨华	张浦
杨兴林	汪澄	邹家生	邹耀明
陈文军	陈汉金	陈明辉	陈琪
陈鹤荣	周社宁	周胜贤	周瑞平
郑迎革	侯建华	姚寿广	姜若松
施伟	费瑛	赵永富	骆宁森
倪其军	徐斌	贾玉康	戚志群
梁晋	黄金山	葛世伦	蒋志勇
韩海林	鲁春林	窦培林	潘丰
颜跃忠	戴雪良	魏建	

· 本刊入编:《中国期刊全文数据库》、《中国学术期刊综合评价数据库》、《万方数据—数字化期刊群》、《中国核心期刊(遴选)数据库》、《中国学术期刊(光盘版)·中国知网》、《中文科技期刊数据库》《超星期刊域出版平台》,凡在本刊发表的论文和报道将随刊全文上网,本刊向作者支付的稿酬已含期刊全文上网服务报酬,不再另付上网报酬。如有异议请在来稿中注明。

· 请勿一稿多投。

JIANGSU SHIP

Vol. 39, No. 3 (Serial 209), June 2022 (Bimonthly)

TRANSACTIONS OF JIANGSU PROVINCIAL SOCIETY OF NAVAL ARCHITECTURE AND MARINE ENGINEERING

CONTENTS

- JS 2022-3-01 Numerical Simulation of Tank Sloshing and Ship Coupled Motion Based on CFD**
..... YUAN Zhongpai, WANG Fuchao, LIU Yi, ZHU Renqing (1)
Based on the CFD method, the hydrodynamic calculation software STARCCM+ is used to numerically simulate a carrier liquid FPSO model, and the effects of wave frequency, wave amplitude and tank loading rate on the FPSO tank sloshing and the coupled motion of the ship are analyzed under the condition of transverse waves. The results show that the tank sloshing basically has no effect on the heave motion of the FPSO, and the influence of the rolling motion is manifested as increasing or decreasing rolling due to the wave frequency; when the wavelength is close to the length of the ship, the liquid carrying rate increases, and the rolling amplitude of the ship increases. When the wave amplitude increases, the motion response of the FPSO is intensified, and the slamming of the bulkhead by the tank sloshing is more severe.
- JS 2022-3-02 Research on Vibration of LNG Regasification Module Dynamic Equipment Foundation and Support Structure** ZHANG Lihua, ZHU Junkai, XU Haitao (5)
In order to explore the vibration problems of the dynamic equipment foundation and supporting structure of the LNG regasification module, the vibration problems of the high pressure centrifugal pump equipment foundation and the connected supporting structure on a FSRU are studied with reference to relevant standards, regulations and guidelines. First, the design software SACS is used to establish the equivalent structure model. Then through the structural dynamic analysis, the possible harmful vibration of the system is analyzed and predicted by using the resonance discrimination method and the response discrimination method successively. Finally, conclusions and suggestions are given based on the analysis results. The research results show that in the engineering application stage, this forecasting and evaluation method can provide technical reference for the structural design of offshore equipment and equipment operation and maintenance during operation, and play an auxiliary role.
- JS 2022-3-03 Finite Element Calculation of Bottom Strength of a Wind Power Installation Vessel**
..... YAN Fangchao, GUO Ting, GUAN Jie (8)
- JS 2022-3-04 Energy Efficiency Index Analysis of a Dual-Fuel Ro-Ro Passenger Ship**
..... CHEN Deng, YU Jian, FU Hehe, BA Yaertu (12)
- JS 2022-3-05 Research on the Collision Mechanism of Bulbous Bow Based on Explicit Dynamic Finite Element Method** WANG Fupeng, ZHANG Yuelin (15)
- JS 2022-3-06 Research on the Vibration Influence of the Center of Gravity of a Harbor Utility Craft Living** PU Tianhuan (18)
- JS 2022-3-07 Research on the Application of a New Wave Piercing Bow on a Monohull High-Speed Craft** LIU Zihao, MA Xiaodong, LENG Xuehua, LIU Chuan (21)
- JS 2022-3-08 Finite Element Analysis of Rod Structural Strength of a 3,000 t Crane Ship**
..... LIANG Peng, DENG Yingxue, ZHANG Yuchen, LI Lei, WAN Yufei (24)
- JS 2022-3-09 Rudder System Design Process of a New-Type 50,000 t Oil Tanker** LI Wenliang (27)
- JS 2022-3-10 Analysis and Solution to the Long Shafting Whirling Vibration of a Ro-Ro Passenger Ship**
..... ZHAO Zibing, YIN Xingjie, WU Lin (30)
According to the characteristics of the ro-ro passenger ship's long stern shafts, the professional shafting calculation software of the classification society is used to analyze the bearing spacing and bearing base stiffness, which are the main factors affecting the vibration, to find the existing problems and update the calculation to meet the requirements of the classification society. The results show that when the total length of the stern shaft is constant, changing the bearing spacing of the stern has a limited effect on the secondary speed of the blade; when there is a large difference in the stiffness value of the base, the critical speed of the whirling vibration changes greatly. Finally, it is verified by real ship data measurement, which provides a reference for the shafting design of the ro-ro passenger ship project, especially the arrangement of the stern shaft.
- JS 2022-3-11 Design Analysis of Linkage Capture Mechanism for Surface Unmanned Equipment**
..... ZHAO Mingqing, QIAN Donglin (35)
- JS 2022-3-12 Feasibility Analysis of a Three-Pile Suction Jacket Fan Foundation Construction Plan** ...
..... LIN Hancheng, HUA Hongxu, CHEN Lingxiang (38)
- JS 2022-3-13 Research on Data Mining Method of Ship Construction Standard Man-Hour Based on WBS**
..... ZHU Xiaomin, WANG Jucheng, ZHOU Hong (41)
- JS 2022-3-14 Improvement of Inspection and Primer Spraying Process for Ship's Freshwater Tank Structure** LIN Qing (44)
- JS 2022-3-15 Research on Resource-Led Shipbuilding Multi-Project Plan Management**
..... ZHANG Yichi, ZHAO Dong, LUO Fanlin, CHEN Yu, CHEN Lumin (46)
- JS 2022-3-16 The Production Organization Mode and Enlightenment of Meier Luxury Cruise Ship Construction** ZHANG Qi, SHI Jing, ZHANG Shuguang, LIU Bin (50)