



Haiyang Xuebao  
(1979年5月创刊)

ISSN 0253-4193  
CN 11-2055/P

# 海洋学报

第43卷第5期  
Vol.43 No.5

中 2021  
文 05  
版

海洋学报 Haiyang Xuebao

第四十三卷 第五期

2021年5月



中国海洋学会主办  
《海洋学报》编辑部出版

# 海洋学报

Haiyang Xuebao

第 43 卷 第 5 期 2021 年 5 月

Scopus 数据库收录期刊

中国科学引文数据库来源期刊

北大中文核心期刊

中国科技论文统计源期刊

美国《化学文摘》收录期刊

《日本科技文献速报》收录期刊

## 目次

### 论文

#### 物理海洋、海洋气象、海洋物理

渤海湾 $M_2$ 分潮的季节变化: 增强调和分析的应用 .....	余鹰, 王道胜	1
海平面上升、强台风和风暴潮对厦门海域极值水位的影响及危险性预估 .....	许炜宏, 蔡榕硕	14
基于全和谐型浅水方程的有限体积海啸数值模型开发与应用 .....	.....	.....
..... 周文, 王培涛, 王岗, 于福江, 郑金海, 梁秋华		27
河控型河口盐度层化对悬沙的捕集机制——以洪季磨刀门河口为例 .....	.....	.....
..... 谢荣耀, 刘锋, 罗向欣, 牛丽霞, 蔡华阳, 杨清书		38
途经南海热带气旋迅速加强的年代际变化 .....	曹力戈, 王喜冬, 李威, 韩桂军, 武晓博	50
印度尼西亚海及周边海域层结的时空变化特征分析 .....	梁浩然, 谢玲玲, 周磊, 郑全安, 李明明	63

#### 海洋地质

南海北部晚渐新世与早中新世之交 T60 构造运动的古水深响应 .....	王乙晶, 金海燕, 翦知潜, 徐娟	79
伶仃洋钻孔岩芯的磁学记录及其对海水进退的响应 .....	吴翼, 付淑清, 夏真	88
希尔伯特-黄变换在浅海沉积体系地震精细识别刻画中的应用 .....	.....	.....
..... 鲁银涛, 曹晓初, 冉伟民, 栾锡武, 许小勇, 李东, 杨涛涛, 邵大力, 魏新元		100

#### 海洋工程

珊瑚礁海岸波流运动特性整体物理模型实验研究 .....	陈树彬, 陈松贵, 姚宇, 陈汉宝	110
新型海洋温差能回热循环热力学分析 .....	彭景平, 葛云征, 陈风云, 刘蕾, 吴浩宇, 刘伟民	120
黄河水下三角洲高浓度黏性泥沙流变特性及其影响因素 .....	.....	.....
..... 刘晓磊, 陈安铎, 张红, 陆杨, 马路宽, 贾永刚		127

#### 海洋信息科学

面向拓扑分析的海洋流场临界点提取算法研究 .....	季民, 任静, 张立国, 李婷, 孙勇	135
----------------------------	---------------------	-----

# Haiyang Xuebao

Vol. 43 No. 5 May 2021

## CONTENTS

### Article

#### Physical Oceanography, Marine Meteorology and Marine Physics

- Seasonal variability of the  $M_2$  constituent in the Bohai Bay: Application of enhanced harmonic analysis ..... *Yu Ying, Wang Daosheng* 13
- Impacts of sea level rise, strong typhoon and storm surge on extreme sea level in coastal waters of Xiamen and hazards estimation .....  
..... *Xu Weihong, Cai Rongshuo* 26
- Development and application of a finite volume tsunami numerical model based on the well-balanced shallow water equations .....  
..... *Zhou Wen, Wang Peitao, Wang Gang, Yu Fujiang, Zheng Jinhai, Liang Qiuhua* 37
- Sediment trapping mechanism by salinity stratification in a river-dominated estuary: A case study of the Modaomen Estuary in flood season  
..... *Xie Rongyao, Liu Feng, Luo Xiangxin, Niu Lixia, Cai Huayang, Yang Qingshu* 49
- Multidecadal variability of rapid intensification of tropical cyclones passing through the South China Sea .....  
..... *Cao Lige, Wang Xidong, Li Wei, Han Guijun, Wu Xiaobo* 62
- Analysis of the spatiotemporal characteristics of stratification in the Indonesian seas and surrounding waters .....  
..... *Liang Haoran, Xie Lingling, Zhou Lei, Zheng Quanan, Li Mingming* 78

#### Marine Geology

- The response of paleo-water depth to T60 tectonic movement in the northern South China Sea during the late Oligocene to early Miocene  
..... *Wang Yijing, Jin Haiyan, Jian Zhimin, Xu Juan* 87
- Magnetic variations of sediments from a drilling core in the Lingdingyang Bay, Zhujiang River Estuary, and their responses to marine  
transgression and regression ..... *Wu Yi, Fu Shuqing, Xia Zhen* 99
- Application of Hilbert-Huang transform method in fine illustrating shallow marine sediment system .....  
..... *Lu Yintao, Cao Xiaochu, Ran Weimin, Luan Xiwu, Xu Xiaoyong, Li Dong, Yang Taotao, Shao Dali, Wei Xinyuan* 109

#### Ocean Engineering

- Three dimensional physical modelling study on wave and current characteristics in coral reef coastal system .....  
..... *Chen Shubin, Chen Songgui, Yao Yu, Chen Hanbao* 119
- Thermodynamic analysis of a new ocean thermal energy conversion regenerative cycle .....  
..... *Peng Jingping, Ge Yunzheng, Chen Fengyun, Liu Lei, Wu Haoyu, Liu Weimin* 126
- Rheological characteristics and its influencing factors of dense cohesive sediments in the Huanghe River subaqueous delta .....  
..... *Liu Xiaolei, Chen Anduo, Zhang Hong, Lu Yang, Ma Lukuan, Jia Yonggang* 134

#### Marine Information Science

- Research on extraction algorithm of critical points of ocean flow field for topological analysis .....  
..... *Ji Min, Ren Jing, Zhang Liguo, Li Ting, Sun Yong* 144