

第四纪研究

DISIJI YANJIU

第 45 卷 第 2 期 2025 年 3 月

田军,同济大学海洋与地球科学学院院长聘特聘教授。自 1999 年起,一直利用国际大洋钻探的深海岩芯开展古海洋学研究;2015 年获国家自然科学基金委杰出青年科学基金资助。参加过 IMAGES 南海航次、太阳号帝汶海航次和东赤道太平洋大洋钻探 IODP321 航次。目前担任中国第四纪科学研究院理事和间冰期分委会副主任、国际地层委员会新近纪分委会(SNS)通讯委员、国际地层委员会地层分类分委会(ISSC)委员



特邀编审介绍

目 次

海洋第四纪科学研究

上新世以来赤道西太平洋上层水体热结构的轨道尺度演变特征	任钰, 彭娜娜, 王星星, 等(365)
上新世以来赤道太平洋海温轨道周期转型的简单模式瞬变模拟	季翔宇, 王跃, 魏思华, 等(375)
中更新世气候转型期深层海洋环流和深海碳储库演变	陈海净, 王美乐, 任钰, 等(395)
海洋氧同位素三期冰盖对全球气候影响及其与千年尺度气候突变的联系	范婧奇, 张晓, 邵晓华, 等(406)
南海南部 500 ka 以来温跃层的演变历史与机制	董良, 周佳鸣(419)
晚第四纪南海表层海水氧同位素演变	孙春晓, 王跃, 黄恩清, 等(427)
北大西洋巴芬湾海域深海沉积物有机地球化学指标初探	张彦成, 陈江源, 姜佳玮, 等(440)
MIS 4/3 转型期北太平洋亚热带流涡区浮游有孔虫 <i>Globorotalia truncatulinoides</i> 的分布特征及其古气候意义	张超, 胡榕(448)
北太平洋 DSDP 433 钻孔沉积物粒度和扫描电镜观测揭示的沉积物源	罗凯, 鹿化煜, 胡榕, 等(456)
末次冰期以来热带西太平洋北部上层水体热结构重建及方法比较	贾奇, 熊志方, 秦秉斌, 等(468)
全新世赤道东太平洋缺氧区氧气含量无显著变化: 底栖有孔虫表面孔隙度证据	卢婉仪, OPPO Delia W, 蒋知湣(476)
末次冰期以来鲁汶流强度变化及其影响因素	杨高, 张鹏, 杜花(482)
东阿拉伯海更新世冰期-间冰期物源变化的 Sr-Nd 同位素证据	陈周昱, 鹿化煜, 冯晗, 等(491)
末次冰盛期以来南海单壳体浮游有孔虫碳同位素反映的上层海水结构季节性演变	袁子杰, 黄恩清, 江小英, 等(505)
末次冰盛期以来南海东北部颗粒形态变化及其影响因素	高健祺, 周辛全, 刘传联(516)
南海中部上层水冷水竹节珊瑚的年龄模式和生长速率	惠鑫如, 周晓理, 蒋知湣, 等(526)
基于支链四醚类脂物的南海中层水 pH 定量重建	杨启诺, 胡露元, 贾国东, 等(535)
海洋沉积记录的南海北部地区末次冰期野火历史及其驱动机制	许涵, 程仲景, 刘演, 等(546)
巽他陆坡末次冰盛期以来粒度记录及其古环境意义	魏良宇, 刘志飞, 赵宏超(559)
植硅体证据揭示末次冰盛期南海南部巽他大陆架局部植被	戴璐, 黄伟捷, BENCHAWATTANANON Rachadaporn, 等(569)
闽浙泥质区海表温度重建揭示过去两千年夏季沿岸上升流强度变化	姜佳玮, 姜一晴, CHAN Morris, 等(579)
浮游有孔虫 <i>Neogloboquadrina dutertrei</i> 钙化作用及其海洋酸化指示意义	秦秉斌, 熊志方, 贾奇, 等(588)
阿蒙森海表层沉积物硅藻生物标志物和可分选砂分布规律对古环境重建的启示	王家凯, 郭景腾, 唐正, 等(600)
北冰洋第四纪地层学研究进展	张静渊, 肖文申, 王汝建, 等(612)
简讯	
《第四纪研究》2026 年 1~6 期主题建议及征稿启事	封底

特邀编审: 田军

责任编辑: 杨美芳, 赵淑君

封面说明: 西太平洋 3000 m 水深处密布的冷水珊瑚丛。作为深海底栖生态系统的支柱,冷水珊瑚是链接海洋上层生物生产、深海环流以及海底地形地貌的一个枢纽环节。2024 年,以丁抗和蒋知湣为领队、党皓文和李季伟为首席科学家,赴西太平洋和南海的“深海勇士”号载人深潜航次(TS2-38-9),首次将它们展现在人类眼前

照片提供: 同济大学-中国科学院深海所联合组织的 TS2-38-9 航次

QUATERNARY SCIENCES

(DISIJI YANJIU)

Vol. 45 No. 2, March 2025

CONTENTS

Transitional evolution of the orbital-cycles in upper-water thermal structure of the Western Equatorial Pacific since the Pliocene	REN Yu, PENG Nana, WANG Xingxing, et al.(374)
Transient simulation of the orbital periodic transition of Equatorial Pacific sea surface temperature since the Pliocene using simple models.....	JI Xiangyu, WANG Yue, WEI Sihua, et al.(394)
Changes in the deep ocean circulation and deep-sea carbon storage during the mid-Pleistocene climate transition.....	CHEN Haijing, WANG Meile, REN Yu, et al.(405)
Global climate impacts of Marine Isotope Stage 3 ice sheets change and their links to millennial-scale abrupt climate events.....	FAN Jingqi, ZHANG Xiao, Shao Xiaohua, et al.(418)
Evolution and mechanisms of the thermocline in the southern South China Sea over the past 500 ka.....	DONG Liang, ZHOU Jiaming(426)
Late Quaternary evolution of the sea surface water oxygen isotope stacked from the South China Sea.....	SUN Chunxiao, WANG Yue, HUANG Enqing, et al.(439)
Preliminary analysis of organic biomarkers in deep-sea sediments from the Baffin Bay, North Atlantic.....	ZHANG Yancheng, CHEN Jiangyuan, JIANG Jiawei, et al.(447)
Distribution characteristics of <i>Globorotalia truncatulinoides</i> in the North Pacific subtropical gyre at the MIS 4/3 transition and their paleoclimate implication.....	ZHANG Chao, HU Rong(455)
Grain size distribution and characteristics under scanning electron microscopy of sediments from DSDP 433 reveal deposits provenance in the North Pacific Ocean.....	LUO Kai, LU Huayu, HU Rong, et al.(467)
Reconstruction of upper ocean thermal structure in the northern tropical western Pacific since the last glacial and method comparison.....	JIA Qi, XIONG Zhifang, QIN Bingbin, et al.(475)
No oxygen deficient zone changes in the Eastern Equatorial Pacific during the Holocene: Results from the benthic foraminiferal surface porosity records.....	LU Wanyi, OPPO Delia W, JIAN Zhimin(481)
Variation of the Leeuwin Current strength and its influencing factors since the last glacial.....	YANG Gao, ZHANG Peng, DU Hua(490)
The provenance of glacial-interglacial sediments in the Eastern Arabian Sea during the Pleistocene, evidence from Sr-Nd isotopic compositions.....	CHEN Zhouyu, LU Huayu, FENG Han, et al.(504)
Seasonal changes of upper ocean water structure in the South China Sea since the Last Glacial Maximum: Insights from carbon isotope of individual planktonic foraminifera.....	YUAN Zijie, HUANG Enqing, JIANG Xiaoying, et al.(515)
Variations of coccolith morphology and their influencing factors in the northeastern South China Sea since the Last Glacial Maximum.....	GAO Jianqi, ZHOU Xinquan, LIU Chuanlian(525)
Age pattern and growth rate of cold-water bamboo coral in the upper ocean of the central South China Sea.....	HUI Xinru, ZHOU Xiaoli, JIAN Zhimin, et al.(534)
Quantitative reconstruction of intermediate water pH in the South China Sea based on branched tetraether lipids.....	YANG Qinuo, HU Luyuan, JIA Guodong, et al.(545)
Marine sedimentary records reveal paleofire history and its driving mechanisms in the northern South China Sea during the Last Glacial.....	XU Han, CHENG Zhongjing, LIU Yan, et al.(558)
Grain size records on the Sunda Slope and their paleoenvironmental significance since the Last Glacial Maximum.....	WEI Liangyu, LIU Zhifei, ZHAO Hongchao(567)
Phytolith evidence sheds light on the composition of local vegetation across the exposed Sunda Shelf in the southern South China Sea during the Last Glacial Maximum.....	DAI Lu, HUANG Weijie, BENCHAWATTANANON Rachadaporn, et al.(578)
Summer monsoon-induced costal upwelling variability documented by sea surface temperature changes in the Min-Zhe mud area over the last two millennia.....	JIANG Jiawei, JIANG Yiqing, CHAN Morris, et al.(587)
Calcification of planktonic foraminifer <i>Neogloboquadrina dutertrei</i> and its indicative significance for ocean acidification.....	QIN Bingbin, XIONG Zhifang, JIA Qi, et al.(599)
The implications of diatom biomarkers and sortable silt distribution in surface sediments from the Amundsen Sea for paleoenvironmental reconstruction.....	WANG Jiakai, GUO Jingteng, TANG Zheng, et al.(611)
Progresses in Quaternary stratigraphy research in the Central Arctic Ocean.....	ZHANG Jingyuan, XIAO Wenshen, WANG Ruijian, et al.(626)