

目次

基础研究

- 涡卷弹簧释放的动力学性能研究 李志相, 赵振, 于兵(537)
- 基于单相回路及热泵回路的月球居住舱热控系统对比分析 文金远, 许安易, 李鹏, 徐向华(543)
- 模拟人-机器人协同探测任务中的空间语言交互规律研究 隋雨繁, 吴雨婷, 肖承丽, 周仁来(549)
- 基于 ssVEP 与眼动追踪的混合型并行脑机接口研究 叶阳阳, 刘邈, 明东(559)
- 面向空间机械臂遥操作任务的情境意识研究
..... 李巍然, 薛书骐, 张绍尧, 蒋婷, 于洪强, 张博俊, 王春慧(566)
- 前庭刺激对虚拟环境三维空间定向的影响及与空间能力的相关关系
..... 邹朋, 王林杰, 何思扬, 袁敏, 王惠娟, 王颜晴, 陈文娟, 郭建平, 刘相(574)
- 舱外航天服主动热控与人体舒适性实验研究 李金林, 王海亮, 廖前芳(582)
- 短臂载人离心机的研制及 $+G_x/-G_z$ 的过载生理研究 郭磊, 裴葆青, 武雪晴, 王唯(589)
- 犬头低位后肢去负荷模拟失重模型的建立与验证 刘书林, 姚永杰, 刘秋红, 巴剑波(596)
- 航天器表面抑菌活性微生物的筛选与鉴定 马璐, 张文德, 尹钊, 邢超, 王艳发, 徐侃彦(603)

工程技术

- 空间站短期任务时间约束处理方法研究 郭帅, 罗亚中, 史兼郡(610)
- CELSS 中营养液循环利用应用实例 李家练, 钟剑富, 唐永康, 屈军乐, 艾为党(620)
- 时间触发卫星无线网络同步仿真研究 官经刚, 刘建华, 宁宇, 张德明, 何锋(626)
- 高温光纤 EFPI 应变传感技术研究及应用 李金洋, 毛国培, 李龙, 宁佳晨, 张伟航, 史青(633)

综述

- 基于 EEG 的飞行员脑力疲劳评估研究进展 韩明秀, 王盛, 王煜文, 牛海军, 柳忠起, 刘涛(639)
- 微流控芯片细胞灌流培养技术及其应用研究进展
..... 王文甲, 彭钊, 吕雪飞, 邓玉林, 李晓琼, 徐建栋(646)
- 面向空间环境的聚乙烯基中子屏蔽复合材料 官敏, 王佳平, 高建义, 王东瑞(655)
- 空间站运营阶段应用项目征集的初步思考 刘艳, 张丽艳, 张伟(663)

MANNED SPACEFLIGHT

Vol.27 No.5 (Sum 103) 2021

CONTENTS

BASIC RESEARCH

- Study on Dynamic Performance of Spiral Spring Release LI Zhixiang, ZHAO Zhen, YU Bing(537)
- Analysis and Comparison of Thermal Control System for Lunar Habitat Based on Single-phase Fluid Loop and Heat Pump Loop WEN Jinyuan, XU Anyi, LI Peng, XU Xianghua(543)
- Study on Spatial Language Interaction in Simulated Human-Robot Cooperative Exploration Task
..... SUI Yuqing, WU Yuting, XIAO Chengli, ZHOU Renlai(549)
- Research on Hybrid Parallel Brain-Computer Interface Based on ssVEP and Eye Tracking
..... YE Yangyang, LIU Miao, MING Dong(559)
- Research on Situation Awareness for Teleoperation Mission of Space Manipulator LI Weiran,
XUE Shuqi, ZHANG Shaoyao, JIANG Ting, YU Hongqiang, ZHANG Bojun, WANG Chunhui(566)
- Effects of Vestibular Stimulation on 3D Spatial Orientation in Virtual Environment and Its Correlation with Spatial Ability ZOU Peng, WANG Linjie, HE Siyang,
YUAN Min, WANG Huijuan, WANG Yanqing, CHEN Wenjuan, GUO Jianping, LIU Xiang(574)
- Experimental Study on Active Thermal Control and Human Body Comfort of EVA Spacesuit
..... LI Jinlin, WANG Hailiang, LIAO Qianfang(582)
- Development of a Short-Arm Human Centrifuge and Physiological Overload Study under $+G_x/-G_z$ Acceleration
..... GUO Lei, PEI Baoqing, WU Xueqing, WANG Wei(589)
- Establishment and Validation of Simulated Weightlessness Model of Dog with Head Down Hindlimb Unloading
..... LIU Shulin, YAO Yongjie, LIU Qihong, BA Jianbo(596)
- Screening and Identification of Antimicrobial Microorganisms on Spacecraft Surface
..... MA Jun, ZHANG Wende, YIN Zhao, XING Chao, WANG Yanfa, XU Kanyan(603)

ENGINEERING TECHNOLOGY

- Research on Time Constraint Handling Methods for Short-Term Missions of Space Station
..... GUO Shuai, LUO Yazhong, SHI Jianjun(610)
- An Instance of Nutrient Solution Recycling in CELSS
..... LI Jialian, ZHONG Jianfu, TANG Yongkang, QU Junle, AI Weidang(620)
- Research on Synchronization Simulation Based on Time-Triggered Satellite Wireless Network
..... GONG Jinggang, LIU Jianhua, NING Yu, ZHANG Deming, HE Feng(626)
- Study on Fiber EFPI Strain Sensor for High Temperature and Its Application
..... LI Jinyang, MAO Guopei, LI Long, NING Jiachen, ZHANG Weihang, SHI Qing(633)

REVIEW

- Research Progress of Pilots' Mental Fatigue Evaluation Based on EEG
..... HAN Mingxiu, WANG Sheng, WANG Yuwen, NIU Haijun, LIU Zhongqi, LIU Tao(639)
- Research Progress of Microfluidic Chip Cell Perfusion Culture Technology and its Application
..... WANG Wenjia, PENG Zhao, LV Xuefei, DENG Yulin, LI Xiaoqiong, XU Jiandong(646)
- Polyethylene-Based Composites for Neutron Shielding in Space
..... GONG Min, WANG Jiaping, GAO Jianyi, WANG Dongrui(655)
- Preliminary Thought on Solicitation of Space Station Utilization Proposals
..... LIU Yan, ZHANG Liyan, ZHANG Wei(663)