

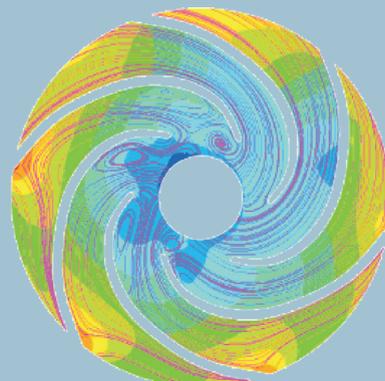
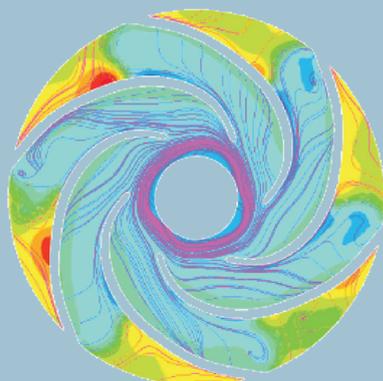
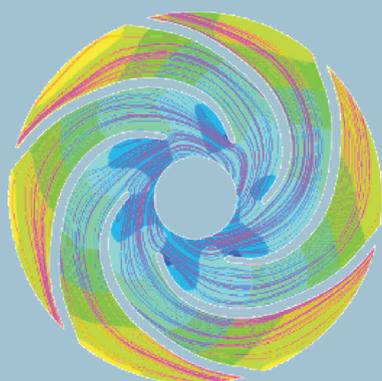
CSCD 核心库来源期刊  
全国中文核心期刊  
中国科技核心期刊  
RCCSE 中国核心学术期刊  
江苏省一级期刊

ISSN 1674-8530  
CN 32-1814/TH  
CODEN PAJIE2

PAIGUAN JIXIE GONGCHENG XUEBAO

# 排灌机械工程学报

Journal of Drainage and Irrigation Machinery Engineering



2021年10月

第39卷 第10期  
Vol. 39 No. 10

中国·镇江  
Zhenjiang, China

江苏省教育厅 主管 江苏大学 主办

## 目次

### ● 泵理论与技术

栏目主编：王福军 袁建平

最佳工况下空间导叶进口几何参数的优化设计

刘在伦,王三臻,张静敏,王金旋(973)

带分流叶片水泵水轮机转子强度及模态分析

张金凤,宋海勤,张帆,蔡海坤,赖良庆,洪秋虹(981)

大尺寸固体颗粒对固液两相流输送泵叶轮的磨损

宋龙波,滕爽,曹骞,康灿,丁可金,李长江(987)

离心泵作透平多工况内流与能量转换特性

林通,谢京,谢仁华(994)

立式管道泵断电过渡过程内流特性分析

张晨滢,裴吉,袁寿其,王文杰,甘星城,邓起凡,赵建涛,张本营(1001)

### ● 水利水电工程

栏目主编：戴会超 仇宝云

卧式泵站竖井进水水道三面进水水力特性数值模拟

蒋红樱,颜红勤,肖忠明,成立,刘浩(1008)

基于改进 LMD 的泵站摆度信号分析

潘虹,唐魏,郑源,于洋(1014)

水轮发电机组轴承结构对油雾外逸现象的抑制作用

庞嘉扬,刘小兵,曾永忠,余志顺,宋罕(1020)

## ● 流体工程

栏目主编：王正伟 林建忠

球型调节阀关阀水锤效应的试验研究与数值计算

陈亚飞, 顾卫国, 王德忠, 许锐(1027)

光水互补发电系统参数不确定性分析

李林, 陈帝伊, 张京京, 李欢欢, 田雨, 岳岩(1033)

## ● 农业水土工程

栏目主编：康绍忠 许迪

2000—2016 年辽宁省 NDVI 时空变化及其与降水量的关系

刘艳伟, 王淑莹, 焦忠帅(1040)

基于粒子群算法的低压管灌系统水力计算方法

龚志浩, 蒋晓红(1046)

Distribution of soil water-stable aggregates and organic carbon content affected by tillage systems: a meta-analysis

LU Xingli, LI Shanshan, LIU Jihu, DUAN Yaxin, YUE Heng, KANG Jianhong, WU Hongliang(1051)

节水减氮对温室番茄生长及水氮利用率的影响

李旭峰, 马娟娟, 孙西欢, 石小虎, 郭向红, 雷涛(1056)

大规模用水节点的灌溉物联网监控系统设计

王志强, 钮丹丹, 王佳兴, 高鑫, 吴昊, 夏倩, 蒋永年, 郭亚(1062)

## ● 排灌装备制造技术

栏目主编：施卫东 黄修桥

激光喷丸强化 IN718 高温合金抗热腐蚀机理

陈松玲, 周建忠, 黄舒, 张慧春(1068)

不同工作压力下穿孔形灌水器内的旋涡作用分析

邢少博, 张金珠, 王振华, 刘宁宁(1075)

## CONTENTS

- Optimal design of geometric parameters of diffuser inlet under optimal working conditions  
..... *LIU Zailun, WANG Sanzhen, ZHANG Jingmin, WANG Jinxuan*( 973 )
- Analysis on rotor strength and mode of pump-turbine with splitter blades  
..... *ZHANG Jinfeng, SONG Haiqin, ZHANG Fan, CAI Haikun, LAI Liangqing, HONG QiuHong*( 981 )
- Wear of large solid particles on impeller of solid-liquid two-phase flow pump  
..... *SONG Longbo, TENG Shuang, CAO Qian, KANG Can, DING Kejin, LI Changjiang*( 987 )
- Inflow and energy conversion characteristics of centrifugal pump as turbine in different conditions  
..... *LIN Tong, XIE Jing, XIE Renhua*( 994 )
- Analysis of flow characteristics of vertical inline pump during shutdown transition process caused by power failure  
..... *ZHANG Chenying, PEI Ji, YUAN Shouqi, WANG Wenjie, GAN Xingcheng, DENG Qifan, ZHAO Jiantao, ZHANG Benying*( 1001 )
- Numerical simulation of hydraulic characteristics of three-side inlet of vertical shaft inlet channel of horizontal pumping station  
..... *JIANG Hongying, YAN Hongqin, XIAO Zhongming, CHENG Li, LIU Hao*( 1008 )
- Analysis of pumping station swing signal based on improved LMD  
..... *PAN Hong, TANG Wei, ZHENG Yuan, YU Yang*( 1014 )
- Restraining effect of bearing structure on oil mist escaping of hydrogenerator unit  
..... *PANG Jiayang, LIU Xiaobing, ZENG Yongzhong, YU Zhishun, SONG Han*( 1020 )
- Experimental study and numerical calculation of water hammer effect of closing valve of ball type regulating valve  
..... *CHEN Yafei, GU Weiguo, WANG Dezhong, XU Rui*( 1027 )
- Parameter uncertainty analysis of solar-hydro complementary power generation system  
..... *LI Lin, CHEN Diyi, ZHANG Jingjing, LI Huanhuan, TIAN Yu, YUE Yan*( 1033 )
- Spatial and temporal variations of normalized differential vegetation index and its relationship with precipitation in Liaoning Province from 2000 to 2016  
..... *LIU Yanwei, WANG Shuying, JIAO Zhongshuai*( 1040 )
- Hydraulic simulation based on PSO for irrigation projects with low-pressure pipe conveyance  
..... *GONG Zhihao, JIANG Xiaohong*( 1046 )
- Distribution of soil water-stable aggregates and organic carbon content affected by tillage systems: a meta-analysis  
..... *LU Xingli, LI Shanshan, LIU Jihu, DUAN Yaxin, YUE Heng, KANG Jianhong, WU Hongliang*( 1051 )
- Effects of water saving and nitrogen reduction on tomato growth and utilization rate of water and nitrogen in greenhouse  
..... *LI Xufeng, MA Juanjuan, SUN Xihuan, SHI Xiaohu, GUO Xianghong, LEI Tao*( 1056 )
- Design of IOT irrigation management system with large-scale nodes  
..... *WANG Zhiqiang, NIU Dandan, WANG Jiaxing, GAO Xin, WU Hao, XIA Qian, JIANG Yongnian, GUO Ya*( 1062 )
- Mechanism of hot corrosion resistance of IN718 superalloy strengthened by laser peening  
..... *CHEN Songling, ZHOU Jianzhong, HUANG Shu, ZHANG Huichun*( 1068 )
- Analysis of vortex action in perforated emitters under different working pressures  
..... *XING Shaobo, ZHANG Jinzhu, WANG Zhenhua, LIU Ningning*( 1075 )