

ISSN 1001-7119

全国中文核心期刊

中国科技核心期刊

# 科技通報



BULLETIN OF SCIENCE AND TECHNOLOGY

2017年6月第33卷 第6期

Vol.33 No.6 Jun. 2017

浙江省科学技术协会主办

Sponsored by Zhejiang Association for Science and Technology



中国·杭州  
HANGZHOU CHINA

# 科技通報

KEJI TONGBAO

第33卷 第6期 2017年6月30日出版

<http://kjtbc.periodicals.net.cn/>; [KJTBC.chinajournal.net.cn/](http://KJTBC.chinajournal.net.cn/)

全 国 中 文 核 心 期 刊

中 国 科 技 核 心 期 刊

评价系统和数据库:

CNKI、CSTPC、GJFD、VIPC、EPS

E-mail:kjtbc@aliyun.com

## 目 次

### · 数理科学和化学 ·

- 热塑性弹性体阻尼及吸声性能研究 ..... 卢焕青,朱雅芝,金江明,杨建江,杨晋涛,范萍,钟明强,陈枫(1)  
不同接触方式的导线短路熔痕金相晶粒尺寸分析 ..... 叶海伦,詹涌鑫,李钊,梁栋(6)  
液滴破碎机理的分析 ..... 李光霖,陈玉川,李福旭(10)  
数独问题的生成与求解算法的研究 ..... 曲海平,岳峻,王飞(14)  
含可积系统的变系数(2+1)维破裂孤立子方程的拟周期解计算研究 ..... 黄杰英(18)  
拟线性微分方程边值解的稳定性及收敛性分析 ..... 段永红(22)  
空间公共品博弈中条件相互惩罚对合作的影响(英文) ..... 兰婷,程磊,戚静云(26)  
考虑溢出效应的竞争供应链创新投入与契约策略研究 ..... 李柏勋,谢洁燕(32)  
基于效用函数优化BS模型的最优资产和消费组合模型 ..... 程文亮(38)  
生态文明视角下中小企业综合绩效评价研究 ..... 陈许红(42)

### · 地球科学 ·

- 四川盆地江津地区嘉一—嘉二段储层特征及主控因素 ... 刘建强,郑浩夫,黎虹纬,苏成鹏,李林娟,邓思思(46)

- 东濮凹陷古近系沙一段岩盐物理特征、分布规律及资源评价 ..... 董芯岑, 张方亮, 戚宇, 鲍园(53)  
黄岛地区 NW 向断裂特征及其地质环境意义的探讨 ..... 胡秋媛, 马遵青, 李萧, 李理, 黄贊, 葛星, 常海钦(58)  
基于 GIS 的青海省能源矿产深部开采中的地质测绘方法研究 ..... 李振萍(63)  
自然变率下夏季西北太平洋副热带高压与南亚高压关系研究——基于 NCAR CAM3 模式分析 ..... 龙妍妍, 李飞(67)

### · 生物科学 ·

- 陕西黄河湿地大鸨越冬栖息地选择 ..... 吴逸群(72)

### · 医药、卫生 ·

- 一种可穿戴呼吸实时监测系统的设计 ..... 李宏恩, 周晋阳, 郝文延(78)  
覆盆子的药用研究进展与鲜食产业分析 ..... 孙健, 沈晓霞(82)  
本体感觉训练对前交叉韧带损伤患者的恢复状况影响 ..... 吴严冰, 胡孝海(86)  
肝干细胞与肝损伤修复的研究进展 ..... 杨献光, 朱琳, 和春翠, 赵卫明, 徐存拴(90)  
遗体短期低温常态保存装置的研制 ..... 付慧群, 李玉光, 周雪媚, 陈霜玲, 姜思朋, 王永阔(96)

### · 工业技术 ·

- 壁面粗糙度对风琴管喷嘴空化流动特性的影响 ..... 孙军, 赵新泽, 徐翔, 汪坤(100)  
基于大数据分析的配电网主动检修业务应用研究与实现 ..... 徐祥征, 王师奇, 吴百洪(105)  
水分对油纸绝缘老化产物的影响研究 ..... 张过有(109)  
小型直流电动机的双路功率控制方法研究 ..... 姜岩蕾, 史增芳(113)  
基于用电信息采集系统构建判别机制提升台区线损管理 ..... 楼省吾(117)  
基于 FTA 的电能表故障激发试验 ..... 李蕊, 韩柳, 杨宝琳, 王军(122)  
寒冷地区低温环境下钢结构冷脆危害研究 ..... 刘竹(126)  
冻融循环对胶结粗粒土强度特性的影响 ..... 张涛, 张广田, 李东兴(131)  
城市高密度建筑群屋顶绿化景观规划分析 ..... 王刚(134)  
渝东北地区高速公路岩质边坡绿化状况调查研究 ..... 张兴梅, 徐聪(138)  
高原机场修建中冻土区域浇筑控制与热损失的关系 ..... 张纯林(143)  
恶劣气候条件下砖石结构古建筑加固方法试验研究 ..... 张娜(147)  
载重汽车车厢移动荷载下的力学响应分析 ..... 陈明(151)  
基于无线网络的农田信息远程监测系统的设计与开发 ..... 张新聚, 李凯, 岳彦芳, 米文霞, 杜志军(156)  
基于果蝇优化算法优化 Powell 的图像配准研究 ..... 庞先伟, 王超, 李学军, 左仁淑(159)  
参数整定 PID 算法的膨胀烟丝加香实时控制模型 ..... 张旷世, 吴冰, 冯海, 张国平, 徐敏(163)  
非线性属性置信规则测度的茶叶消费者偏好挖掘模型 ..... 袁薇, 唐军芳(167)  
多尺度运动片段连接的人体运动动画生成算法 ..... 蒋巍, 卢娜(170)

一个无证书签密方案的密码学分析	柳菊霞,苏靖枫(174)
双馈风力发电系统网测变换器控制优化研究	卢永辉,杨益梅(179)
分类敏感属性规则的数据库隐私保护模型	吴挺(184)
复杂背景下的车型识别系统	凌永国,陆伟艳(188)
基于DWT的图像内容半脆弱水印认证算法	张劲松,杨玫,周立新(192)
基于SVM和DS证据理论的网络攻击检测研究	白龙,孙强(196)
基于信号独立性最大化的地震盲反褶积方法研究	王荣荣,张兵,徐飞(201)
大数据环境下新的数据加密算法研究	曾凌峰(205)
岩溶储层矿山开采中液压支架控制系统研发	赵洲阳(209)

### · 交通运输 ·

大跨径预应力混凝土桥梁灾害分析及治理	吴枫(214)
常规公交“一路一线”模式的系统设计构想	程耀林(218)
汉江水上突发事件应急资源储备点选址研究	彭静,蓝慧娜,宋文娟(224)

### · 环境科学 ·

城市工业区人居生态环境中地下水重金属含量反演模型研究	吴文昌,孙伟达(229)
灰色LEAP计量的青岛生态文明建设评价模型	王丽,翁瑾(234)
长大下坡伤亡事故致因故障树分析	胡艺馨,刘唐志(238)

### · 教育、科学 ·

基于专利分析的医用机器人发展态势研究	吴磊琦,谌凯,林志坚,吴巧玲,赵云飞(242)
基于知识图谱的智能信息处理领域可视化分析	姚艳玲,开滨(248)
城市国际化背景下杭州西部四县(市)创新资源统筹配置研究	邵永新,徐拥军(254)
白酒企业品牌价值评估方法及案例分析	朱慧萍(257)
就业导向下能源与动力工程专业实践教学优化	张乾熙,贾明生,徐青(262)
两阶段链式效率评估的教师绩效考核模型	查金(266)
基于遗传算法的驾校训练课程安排与管理	董强(270)

# BULLETIN OF SCIENCE AND TECHNOLOGY

Vol. 33 No. 6 Jun. 2017

---

---

## CONTENTS

### **Study on Damping and Sound Absorption Properties of Thermoplastic Elastomer**

*Lv Huanqing Zhu Yazhi Jin Jiangming Yang Jianjiang Yang Jintao Fan Ping Zhong Mingqiang Chen Feng(1)*

### **Analysis of the Grain Size of the Short Circuit Molten Trace in Different Contact Ways**

*Ye Hailun Zhan Yongxin Li Zhao Liang Dong(6)*

### **Analysis of the Droplet Breakage Mechanism**

*Li Guangji Chen Wangchuan Li Fuxu(10)*

### **Study On Generation and Solution Algorithm of Sudoku Problem**

*Qu Haiping Yue Jun Wang Fei(14)*

### **Study on Quasi-periodic Solution of (2 + 1) -dimensional Fractal Soliton Equations with Variable Coefficients**

*Huang Jieying(18)*

### **Stability and Convergence Analysis of Boundary Value Solutions for Quasilinear Differential Equations**

*Duan Yonghong(22)*

### **Effect of Conditional Mutual Punishment on the Cooperation in The Spatial Public Goods Game**

*Lan Ting Cheng Lei Qi Jingyun(26)*

### **Contract Strategies and Innovation Investment of Competing Supply Chain with Spillovers Effects**

*Li Baixun Xie Jieyan(32)*

### **Optimal Combination of Assets and Consumption Based on Effect Function BS Model Optimization Model**

*Cheng Wenliang(38)*

### **Research on Comprehensive Performance Evaluation of Small and Medium-sized Enterprise Under Ecological Civilization**

*Chen Xuhong(42)*

### **ICharacteristics and Major Controlling Factors of Jia 1-Jia 2 Member Reservoirs in Jiangjin Area Sichuan Basin**

*Liu Jianqiang Zheng Haofu Li Hongwei Su Chengpeng Li Linjuan Deng Sisi(46)*

### **Physical Feature Resource Distribution and Assessment of the Rocky Salt of First Member of Shahejie Formation ,**

**Paleogene in Dongpu Depression** *Dong Xincen Zhang Fangliang Qi Yu Bao Yuan(53)*

### **Discussion of NW Strike Faults Characteristics and Their Influence on Geological Enviroment in Huangdao Area**

*Hu Qiuyuan Ma Zunqing Li Xiao Li Li Huang Zan Ge Xing Chang Haiqin(58)*

### **Study on Geological Mapping Method Based on GIS in Deep Exploitation of Energy Mineral Resources in Qinghai Province**

*Li Zhenping(63)*

### **Study on Relationship Between the Northwest Pacific Subtropical Anticyclone and South Asia High During Summer**

**Under Natural Variability——Simulated by NCAR CAM3** *Long Yanyan Li Fei(67)*

### **The Habitat Selection of Wintering Great Bustard in Yellow River Wetland, Shanxi Province**

*Wu Yiqun(72)*

### **Design of Wearable Respiratory Real-time Monitoring System**

*Li Hongen Zhou Jinyang Hao Wenyan(78)*

### **Progress in Medicine Research and Fresh Fruit Industry Analysis of *Rubus chingii* Hu**

*Sun Jian Shen Xiaoxia(82)*

### **Effect of Proprioception Training on Recovery of Patients with Anterior Cruciate Ligament Injury**

*Wu Yanbing Hu Xiaohai(86)*

**Research Advance of Hepatic Stem Cells and Liver Damage Repair**

Yang Xianguang ,Zhu Lin ,He Chuncui ,Zhao Weiming ,Xu Cunshuan(90)

**The Development of a Short-term Non-freezer Conserving Apparatus for Remains**

Fu Huiqun ,Li Yuguang ,Zhou Xuemei ,Chen Shuangling ,Jiang Sipeng ,Wang Yongkuo(96)

**Influence of Wall Roughness on Cavitation Flow Characteristics of Organ Pipe Nozzle**

Sun Jun ,Zhao Xinze ,Xu Xiang ,Wang Kun(100)

**Research and Implementation of Active Service for Distribution Network Based on Large Data Analysis**

Xu Xiangzheng ,Wang Shiqi ,Wu Baihong(105)

**Study on the Influence of Moisture on Oil-paper Insulation Aging Products**

Zhang Guoyou(109)

**Study on Control Method of Miniature DC Motor Double Way Power**

Jiang Yanlei ,Shi Zengfang(113)

**Building Discrimination Mechanism from the Electricity Information Collection System to Enhance the Line Loss**

Management Lou Xingwu(117)

**Fault Stimulation Test for Smart Electricity Energy Meter Based on FTA**

Li Rui ,Han Liu ,Yang Baolin ,Wang Jun(122)

**Research of Harm of the Brittle Fracture in Steel Structure in Low-temperature Environment in Cold Area**

Liu Zhu(126)

**Effects of Freezing Thawing Cycle on Strength Characteristics of Cemented Coarse-grained Soil**

Zhang Tao ,Zhang Guangtian ,Li Dongxing(131)

**Analysis on Greening Landscape Planning of Urban High-density Building Group**

Wang Gang(134)

**Investigation and Study About Northeast Chongqing Expressway Rock Slope Greening**

Zhang XingMei ,Xu Cong(138)

**Relationship Between the Control of Frozen Soil Area and the Heat Loss in the Construction of Plateau Airport**

Zhang Cunlin(143)

**Experimental Study on Strengthening Method of Masonry Ancient Buildings Under Adverse Weather Conditions**

Zhang Na(147)

**Mechanical Response Analysis of Truck Under Moving Load**

Chen Ming(151)

**Design and Implementation of Field Informations Remote Monitoring System Based on Wireless Sensor Network**

Zhang Xinju ,Li Kai ,Yue Yanfang ,Mi Wenxia ,Du Zhijun(156)

**Research on Powell Image Registration Optimization Using Fruit Fly Optimization Algorithm**

Pang Xianwei ,Wang Chao ,Li Xuejun ,Zuo Renshu(159)

**Real-time Control Model of Expanded Tobacco Flavoring Based on Parameter Tuning PID Algorithm**

Zhang Kuangshi ,Wu Bing ,Feng Hai ,Zhang Guoping ,Xu Min(163)

**Tea Consumer Preference Mining Model with Nonlinear Attribute Confidence Rule Measure**

Yuan Wei ,Tang Junfang(167)

**Human Motion Animation Generation Algorithm Based on Multi-scale Motion Segment**

Jiang Wei ,Na Lu(170)

**Cryptanalysis of Certificateless Signcryption Scheme**

Liu Juxia ,Su Jingfeng(174)

**Control Optimization Research for Grid-side Converter in Doubly-fed Wind Power Generation System**

Lu Yonghui ,Yang Yimei(179)

**Database Privacy Protection Model Based on Classification of Sensitive Attribute Rules**

Wu Ting(184)

**Vehicle Recognition System Under Complicated Background**

Ling Yongguo ,Lu Weiyuan(188)

**Image Content Semi-fragile Watermarking Authentication Algorithm Based on DWT**

Zhang Jingsong ,Yang Mei ,Zhou Lixin(192)

**Research of Network Attacks Detection Based on SVM and DS Evidence Theory**

Bai Long ,Sun Qiang(196)

**Study on the Seismic Blind Deconvolution Problem Based on the Maximum Independency of Signals**

Wang Rongrong ,Zhang Bing ,Xu Fei(201)

**Research on New Data Encryption Algorithm in Big Data Environment**

Zeng Lingfeng(205)

**Research and Development of Hydraulic Support Control System in Karst Reservoir Mining**

Zhao Zhouyang(209)

- Long-span Prestressed Concrete Bridge Disaster Analysis and Treatment** *Wu Feng(214)*
- A System Design Idea of the " One Road One Line" Mode for the Bus System** *Cheng Yaolin(218)*
- Research on Site Selection of the Hanjiang River Emergency Resources Storage on Waterway Emergencies** *Peng Jing Lan Huina Song Wenjuan(224)*
- City Industrial Zone Groundwater Heavy Metal Content Inversion Model Research in Human Ecological Environment** *Wu Wenhang Sun Weida(229)*
- Qingdao Ecological Civilization Construction Evaluation Model Based on Gray Leap Measurement** *Wang Li Weng Jin(234)*
- Fault Tree Analysis of the Long and Steep Downgrade Casualty Accidents** *Hu Yixin Liu Tangzhi(238)*
- Research on the Development Status of Medical Robot Based on Patent Analysis** *Wu Leiqi Shen Kai Lin Zhijian Wu Qiaoling Zhao Yunfei(242)*
- Visualization Analysis on the Research Field of Intelligent Information Processing Based on Mapping Knowledge** *Yao Yanling Kai Bin(248)*
- Study on the Innovation Resources Arrangement in Hangzhou's Western Four Districts(city) during the City's Internationalization** *Shao Yongxin Xu Yongjun(254)*
- Evaluating Model of White Spirit Enterprise's Brand Value** *Zhu Huiping(257)*
- Optimize the Practice Teaching System of Energy and Power Specialty Based on Job-Orientation** *Zhang Qianxi Jia Mingsheng Xu Qing(262)*
- Teacher Performance Evaluation Model Based on Two-stage Chain Efficiency Evaluation** *Cha Jin(266)*
- Arrange and Manage the Driving School Training Course Based on Genetic Algorithm** *Dong Qiang(270)*

