



Ei Compendex核心期刊
RCCSE中国权威学术期刊

ISSN 1005-3026
CN 21-1344/T
CODEN DDXKEZ

东北大学学报

自然科学版

Vol.40 No.1

东北大学学报

自然科学版

Vol.40 No.1



JOURNAL OF
NORTHEASTERN UNIVERSITY
NATURAL SCIENCE

ISSN 1005-3026



9 771005 302192

中国 · 沈阳
Shenyang China

1
—
2019

东北大学学报(自然科学版)

Dongbei Daxue Xuebao (Ziran Kexue Ban)

第40卷 第1期 (总第340期) 2019年1月

目 次

信 息 与 控 制

- 基于有向网络的人物信息诱发脑电信号特征 常文文, 王 宏, 化成城, 王翘秀 (1)
参数化水平集活动轮廓模型的快速图像分割算法 陈 红, 于晓升, 吴成东, 孙 鹏 (6)
基于随机森林的热轧带钢质量分析与预测方法 纪英俊, 勇晓玥, 刘英林, 刘士新 (11)
改进的低复杂度幅度相位估计波束形成算法 张 石, 余黎煌, 闫 鑫 (16)
基于 Adaboost 学习的 ICN 自适应缓存算法 蔡 凌, 汪晋宽, 王兴伟, 胡 曜 (21)
基于流时间影响域的网络流量异常检测 徐久强, 周洋洋, 王进法, 赵 海 (26)

材 料 与 冶 金

- 等温处理过程热轧 TRIP 钢残余奥氏体的分解行为 王晓晖, 康 健, 袁 国, 王国栋 (32)
变速轧制下超快冷系统工艺温度在线实时修正策略 李振垒, 陈 冬, 袁 国, 王国栋 (37)
Fe - 6.5% Si 钢中温变形过程本构方程 梅瑞斌, 包 立, 李长生, 刘相华 (43)
铜锰复合载氧体吸释氧反应性实验研究 王 坤, 刘金霖, 于庆波, 栾伟鹏 (48)
钒钛磁铁矿焙烧竖炉操作参数对传热过程的影响 骆旭峰, 张 晟, 孙用军, 董 辉 (53)
超细氧化尾渣中铜铅矿物颗粒界面性质 丘学民, 杨洪英, 陈国宝, 赵素兴 (58)

机 械 工 程

- 多层次修正的纤维增强复合薄壳振动响应分析 李 晖, 周正学, 吴腾飞, 韩清凯 (63)
自适应软测量算法的汽车行驶状态估计 郝 亮, 郭立新 (70)
基于大数据和马尔科夫链的行驶工况构建 曹 霖, 李 君, 刘 宇, 曲大为 (77)
断裂面缺损定量分析及其对连杆强度的影响 石 舟, 寇淑清 (82)
基于叶素 - 动量理论的冷却风扇风量计算方法 谢 翼, 郑 彪, 陈 刚, 李夔宁 (88)

资 源 与 土 木 工 程

- 东鞍山贫铁矿石磁选预富集行为 余建文, 韩跃新, 李艳军, 高 鹏 (94)
基于变权重和 D - S 证据理论的桥梁安全评估 梁 力, 孙 爽, 李 明, 李 鑫 (99)
方向总水平导数法的改进和边界识别中的应用 侯振隆, 王恩德, 唐水亮, 袁 园 (104)
基于水平集法的三维非均质岩石建模及水力压裂特性 李 明, 史艺涛, 李 鑫, 梁 力 (109)
一种改进 AFSA - Elman 边坡位移预测网络 王述红, 任艺鹏, 邢观华 (115)
高硅型铁尾矿对混凝土碳化及抗硫酸盐腐蚀性能的影响 程云虹, 黄 菲, 齐珊珊, 李文川 (121)
超声空化热效应破解剩余污泥的机制 由美雁, 张秀秀, 沈 阳, 朱 彤 (126)

管 理 科 学

- 零售规模差异视角下的制造商创新决策研究 李 凯, 郭晓玲 (132)
基于多属性在线评价信息的商品购买推荐排序方法 张 琪, 尤天慧, 樊治平 (138)
基于环境规制的污染企业区际间转移决策 郑云虹, 高 茹, 李 岩 (144)

数 学

- 三维 Minkowski 空间中的圆纹曲面 钱金花, 付雪山 (150)

JOURNAL OF NORTHEASTERN UNIVERSITY

(NATURAL SCIENCE)

Volume 40 Number 1 (Sum 340) January 2019

CONTENTS

Information & Control

EEGs Feature Induced by Person's Information Based on Directed Network	CHANG Wen-wen, WANG Hong, HUA Cheng-cheng, WANG Qiao-xiu(1)
Fast Image Segmentation Algorithm Based on Parametric Level Set Active Contour Model	CHEN Hong, YU Xiao-sheng, WU Cheng-dong, SUN Peng(6)
Random Forest Based Quality Analysis and Prediction Method for Hot-Rolled Strip	JI Ying-jun, YONG Xiao-yue, LIU Ying-lin, LIU Shi-xin(11)
Improved Low Complexity Amplitude and Phase Estimation Beamforming Algorithm	ZHANG Shi, SHE Li-huang, YAN Xin(16)
Adaptive Caching Algorithm Based on Adaboost Learning for Information Centric Networking(ICN)	CAI Ling, WANG Jin-kuan, WANG Xing-wei, HU Xi(21)
Anomaly Detection of Network Traffic Based on Flow Time Influence Domain	XU Jiu-qiang, ZHOU Yang-yang, WANG Jin-fa, ZHAO Hai(26)

Materials & Metallurgy

Decomposition Behaviors of Retained Austenite in Hot Rolled TRIP Steels During Isothermal Treatments	WANG Xiao-hui, KANG Jian, YUAN Guo, WANG Guo-dong(32)
On-Line Correction Strategy for Processing Temperature in Ultra-fast Cooling System Under Variable Velocity Rolling	LI Zhen-lei, CHEN Dong, YUAN Guo, WANG Guo-dong(37)
Constitutive Equations for Moderate-Temperature Deformation of Fe-6.5% Si Steel	MEI Rui-bin, BAO Li, LI Chang-sheng, LIU Xiang-hua(43)
Experimental Study on Oxidation and Reduction Reactivity of Cu/Mn Composite Oxygen Carriers	WANG Kun, LIU Jin-lin, YU Qing-bo, LUAN Wei-peng(48)
Effects of Operation Parameters on Heat Transfer in Shaft Furnace for Vanadium Titano-Magnetite Roasting	LUO Xu-feng, ZHANG Sheng, SUN Yong-jun, DONG Hui(53)
Interface Characteristics of Lead and Copper Minerals from Ultra-fine Cyanide Tailings	QIU Xue-min, YANG Hong-ying, CHEN Guo-bao, ZHAO Su-xing(58)

Mechanical Engineering

Vibration Response Analysis of Fiber-Reinforced Composite Thin Shell Based on Multilevel Correction Technique	LI Hui, ZHOU Zheng-xue, WU Teng-fei, HAN Qing-kai(63)
Vehicle Driving State Estimation of the Adaptive Soft-Sensing Algorithm	HAO Liang, GUO Li-xin(70)
Construction of Driving Cycle Based on Big Data and Markov Chain	CAO Qian, LI Jun, LIU Yu, QU Da-wei(77)
Quantitative Analysis of Fracture Surface Defect and Its Effect on Strength of Connecting Rod	SHI Zhou, KOU Shu-qing(82)
Theoretical Calculation Method of Volume Flow Rate of Cooling Fans Based on Blade Element-Momentum Theory	XIE Yi, ZHENG Biao, CHEN Gang, LI Kui-ning(88)

Resources & Civil Engineering

Pre-enrichment Behaviors of Low-Grade Donganshan Iron Ore Using Magnetic Separation	YU Jian-wen, HAN Yue-xin, LI Yan-jun, GAO Peng(94)
Safety Assessment of Bridges Based on Variable Weight and D-S Evidence Theory	LIANG Li, SUN Shuang, LI Ming, LI Xin(99)
Improvements of the Directional Total Horizontal Derivatives and Their Application in Edge Detection	HOU Zhen-long, WANG En-de, TANG Shui-liang, YUAN Yuan(104)
3D Modeling for Heterogeneous Rock Based on LSM and Characteristics of Hydraulic Fracture Propagation	LI Ming, SHI Yi-tao, LI Xin, LIANG Li(109)
An Improved AFSA-Elman Slope Displacement Prediction Network	WANG Shu-hong, REN Yi-peng, XING Guan-hua(115)
Effects of High-Silicon Iron Tailings on Carbonation and Sulphate Corrosion Resistance of Concrete	CHENG Yun-hong, HUANG Fei, QI Shan-shan, LI Wen-chuan(121)
Mechanism of Thermal Effect of Ultrasonic Cavitation on Excess Sludge Disintegration	YOU Mei-yan, ZHANG Xiu-xiu, SHEN Yang, ZHU Tong(126)

Management Science

Research on Manufacturer's Innovation Decision Making from the Perspective of Retailers' Scale Differences	LI Kai, GUO Xiao-ling(132)
Method for Product Purchasing Recommendation Ranking Based on Multi-attribute Online Ratings Information	ZHANG Jin, YOU Tian-hui, FAN Zhi-ping(138)
Inter-regional Transfer Decision Making of Polluting Enterprises Based on Environmental Regulation	ZHENG Yun-hong, GAO Ru, LI Yan(144)

Mathematics

Canal Surfaces in 3D Minkowski Space	QIAN Jin-hua, FU Xue-shan(150)
--	--------------------------------

Serial parameters: CN21 - 1344/T * 1955 * m * A4 * 152 * zh * P * ¥10.00 * 1000 * 28 * 2019 - 01

Editor of this issue: LIN Qing-hua