

管理方略

- 大数据背景下石油企业数字化管理的运用分析 雒艳 1
- 地下水封石油洞库建设管理过程中关键点控制探讨 田飞 4
- 基于系统工程的海外油田终端处理厂管理体系研究 魏可可, 杨月明, 李琦 8

人才培养

- “双一流”背景下构建“五位一体”研究生创新能力培养的新模式 陈韶云, 胡成龙 12
- 提升化工类大学生安全职业素养的培养体系探索与思考 孙凤梅, 毛广秀, 张艳, 支三军, 褚效中 16
- 民办高校教育中无机化学课程微课资源的建设与应用 刘晓丹 20
- 数字孪生技术在机电一体化控制技术实训中的应用 闫海兰 24
- PBL教学法在化工热力学课程中的应用 李凤丽, 效志刚, 张伟 29

质量与检测

- 高效液相色谱法测定红雉凤仙花内源激素方法的验证研究 潘禄华, 欧阳汝霖 34
- 13 mm和6 mm煤样全水分测定比对试验 胡学峰, 刘亚丹 38
- 利用DOE实验设计方法模拟聚苯硫醚热氧处理的研究 周贵阳, 吕林君, 连明, 李沃源, 张雄伟 42

环保与节能

- 化工园区水环境风险应急体系构建 张建, 戴建军, 杨志祥, 苏柏杭 47
- 中国含汞废物环境管理现状和污染防治建议 朱丹, 王安钰, 孙野, 张崑, 曹家明 50
- “双碳”背景下“环保管家”应对新挑战的措施分析 杨泽东, 刘丽鹃 53
- 海上凝析油和轻质油溢油应急处置策略研究 钱国栋, 闫宏图, 彭新宇, 王新新, 袁宇翔, 赵兴, 刘金璐 56
- 激光空化降解有机污染物的监测理论与实验研究 刘永杰 59
- 催化裂化装置主风机烟机机组节能降耗措施研究 王洋, 王希厚, 吴宗珍 63
- 应急监测在化工企业环境污染事故中的应用 刘红艳 67
- 某环保公司废钨炭催化剂回收利用项目通风设施设计 周洁, 王芬, 王颖, 黎乾 71
- 3D打印过程中的粉尘燃爆风险探析 顾闻, 王进飞 75

技术与信息

- 自控系统在DMC项目中的设计与应用 张振祥 80
- 新标准下饮用水深度处理技术发展 张莹莹 84
- 致密气藏典型裂缝系统水体能量计算及评价研究 韩丹蕾, 薛洪刚, 杨松林, 曹香妮 88
- 炼化企业特种设备智能监管平台的研究与实现 何旌旗, 崔振伟, 王富东, 王岩 92

目次

| | | |
|------------------------------|-----------------------|-----|
| 智能配电控制系统的设计思路····· | 李婷婷, 王爱武, 王晶, 王晓智, 叶露 | 96 |
| 我国生物可降解塑料产业发展现状及前景展望····· | 武占强 | 100 |
| 钠水蒸汽发生器的钠温自抗扰控制研究····· | 闫昊, 孙培伟, 李哲, 黄鹏, 高溪 | 104 |
| CANopen通讯的水下阀门电机控制设计与实现····· | 张纪亚, 张妍, 孙钦, 周国宪, 邓军辉 | 108 |

安全管理

| | | |
|--------------------------------|------------------------|-----|
| 抓好危险化学品重大危险源罐区安全管理之“六大要点”····· | 宋建刚 | 113 |
| 无人机高光谱设备在化工爆炸风险巡检中的应用····· | 白祥, 侯玉洁, 王彬印, 赵海彬, 张涵迪 | 116 |
| 石油化工火灾消防救援中无人机的技术应用与优化····· | 冯三元 | 121 |
| 危险化学品企业隐患排查治理长效机制构建实践····· | 乐林 | 126 |

设备运维

| | | |
|-----------------------------|------------------|-----|
| 化工企业袋式除尘器管理及性能影响因素分析····· | 武军伟 | 131 |
| 辅助阳极参数优化对阴保系统性能的影响····· | 惠海军 | 134 |
| 塔河油田某生产井油管腐蚀失效分析····· | 罗辉, 桂晶, 王毛毛, 李金许 | 138 |
| 炼油厂设备维修与保养工作的实践意义和行动举措····· | 吴泽峰 | 142 |

工艺管控

| | | |
|-------------------------------|-------------------------|-----|
| 海洋石油固定平台建造钢结构焊接质量控制····· | 王鹏 | 146 |
| 海洋石油和LNG项目中电伴热施工的质量控制····· | 石振华, 李子敏, 张新东, 邢同超, 马桂君 | 149 |
| 可变密度高温低密水泥浆体系研发及应用····· | 耿国伟, 杨智程, 淳于家兴 | 152 |
| 渤海油田尾管旋转下入工艺技术研究····· | 黄伟 | 155 |
| 粗苯富油加热方式的对比····· | 隗合华 | 158 |
| Unipol聚丙烯工艺循环气换热器热效率提升应用····· | 马帅 | 161 |
| 集肤效应电伴热在某石化液硫长输管线的应用及优化····· | 余嗣翰 | 165 |

彩页说明

| | |
|--------------------------------------|--|
| 彩页1——东营港经济开发区宣传1 | |
| 彩页2——东营港经济开发区宣传2 | |
| 彩页3——讲好山东化工故事 擦亮山东化工名片 中化企协拜访山东化工促进会 | |
| 彩页4——中国石油和化工行业-企业发展指数 | |
| 彩页5——《化工管理》征稿简则简版 | |
| 彩页6——《化工管理》征稿简则详版 | |

补白

全国碳市场将迎首轮扩容 (28) ; 四部门开展产品碳足迹标识认证试点 推动产品碳足迹管理体系建设 (33)

CONTENTS

Management Strategy

- Analysis of the Application of Digital Management in Petroleum Enterprises under the Background of Big Data..... LUO Yan 1
- Discussion on Key Point Control in the Construction Management of Underground Water Sealed Oil Caverns TIAN Fei 4
- Research on the Management System of Overseas Oilfied Terminal Processing Plants Based on Systems Engineering
..... WEI Keke, YANG Yueming, LI Qi 8

Personnel Culturing

- Construction of A New Model of “Five-in-one” Graduate Student Innovation Ability Training under the Background of
“Double First-class” Initiative CHEN Shaoyun, HU Chenglong 12
- Exploration and Reflection on the Training System for Improving the Safety Professional Literacy of Chemical
Engineering College Students SUN Fengmei, MAO Guangxiu, ZHANG Yan, ZHI Sanjun, CHU Xiaozhong 16
- Construction and Application of Micro-course Resources of Inorganic Chemistry Course in Private University Education
..... LIU Xiaodan 20
- Application of Digital Twin Technology in Mechatronics Control Technology Training YAN Hailan 24
- Application of PBL Teaching Method in Chemical Engineering Thermodynamics Course
..... LI Fengli, XIAO Zhigang, ZHANG Wei 29

Quality and Testing

- Validation of HPLC Method for the Determination of Endogenous Hormones in Impatiens Oxyanthera Hook. f.
..... PAN Luhua, OUYANG Rulin 34
- Comparison Test for Total Moisture Determination of 13 mm and 6 mm Coal Samples.....HU Xuefeng, LIU Yadan 38
- Study on the Simulation of Thermal Oxidation of Polyphenylene Sulfide Via Design of Experiments (DOE)
.....ZHOU Guiyang, LYU Linjun, LIAN Ming, LI Woyuan, ZHANG Xiongwei 42

Environmental Protection and Energy Saving

- Construction of Water Environment Risk Emergency System in Chemical Industry Park
..... ZHANG Jian, DAI Jianjun, YANG Zhixiang, SU Baihang 47
- Environmental Management Status and Pollution Prevention Suggestions of Mercury-containing Waste in China
..... ZHU Dan, WANG Anyu, SUN Ye, ZHANG Kun, CAO Jiaming 50
- Analysis of Measures for “the Environmental Housekeeper ” to Cope with New Challenges under the Background
of “Dual Carbon ” YANG Zedong, LIU Lijuan 53
- Research on Emergency Response Strategies for Offshore Condensate and Light Oil Spills
.....QIAN Guodong, YAN Hongtu, PENG Xinyu, WANG Xinxin, YUAN Yuxiang, ZHAO Xing, LIU Jinlu 56
- Monitoring Theory and Experiment Research of Organic Pollutants Degraded by Laser Cavitation..... LIU Yongjie 59
- Research on Energy Saving and Consumption-reducing Measures for the Main Air Blower Flue Gas Turbine Unit in the
Catalytic Cracking Unit..... WANG Yang, WANG Xihou, WU Zongzhen 63
- Application of Emergency Monitoring in Environmental Pollution Accidents of Chemical Enterprises.....LIU Hongyan 67
- Ventilation Facility Design for Exhaust Palladium Carbon Catalyst Recycling Project of An Environmental Protection
CompanyZHOU Jie, WANG Fen, WANG Ying, LI Qian 71
- Analysis of Dust Explosion Risk in 3D Printing Process GU Wen, WANG Jinfei 75

Technology and Information

- Design and Application of Automatic Control System in DMC Project ZHANG Zhenxiang 80
- Development of Advanced Treatment Technology for Drinking Water under New Standards..... ZHANG Yingying 84

CONTENTS

| | | |
|---|---|-----|
| Study on Water Energy Calculation and Evaluation of Typical Fracture System in Tight Gas Reservoir | HAN Danlei, XUE Honggang, YANG Songlin, CAO Xiangni | 88 |
| Research and Implementation of Intelligent Supervision Platform for Special Equipment in Refining and Chemical Enterprises..... | HE Jingqi, CUI Zhenwei, WANG Fudong, WANG Yan | 92 |
| Design Concept of Intelligent Distribution Control System | LI Tingting, WANG Aiwu, WANG Jing, WANG Xiaozhi, YE Lu | 96 |
| Development and Prospects of Biodegradable Plastics Industry in China | WU Zhanqiang | 100 |
| Study on Sodium Temperature Active Disturbance Rejection Controller of Sodium-water Steam Generator | YAN Hao, SUN Peiwei, LI Zhe, HUANG Peng, GAO Xi | 104 |
| Design and Implementation of Subsea Valve Motor Control for CANopen Communication | ZHANG Jiya, ZHANG Yan, SUN Qin, ZHOU Guoxian, DENG Junhui | 108 |

Safety Management

| | | |
|--|---|-----|
| The “Six Key Points” of Ensuring Safety Management in Tank Areas for Major Hazardous Sources of Hazardous Chemicals..... | SONG Jiangang | 113 |
| Application of UAV Hyperspectral Equipment in Chemical Explosion Risk Inspection | BAI Xiang, HOU Yujie, WANG Binyin, ZHAO Haibin, ZHANG Handi | 116 |
| Application and Optimization of UAV Technology in Petrochemical Fire Fighting and Rescue | FENG Sanyuan | 121 |
| Practices on Construction of Long-term Working Mechanism of Safety Hazard Identification and Correction in Hazardous Chemical Enterprises..... | LE Lin | 126 |

Equipment Operation and Maintenance

| | | |
|--|--|-----|
| Analysis of Management and Performance Influencing Factors of Bag Dust Collectors in Chemical Enterprises | WU Junwei | 131 |
| Influence of Auxiliary Anode Parameter Optimization on the Performance of Cathodic Protection System | HUI Haijun | 134 |
| Analysis of Corrosion Failure of Oil Tubing in A Production Well in Tahe Oilfield | LUO Hui, GUI Jing, WANG Maomao, LI Jinxu | 138 |
| Practical Significance and Action Measures of Equipment Maintenance and Upkeep in Refineries | WU Zefeng | 142 |

Process Control

| | | |
|--|--|-----|
| Welding Quality Control of Steel Structures in the Construction of Offshore Oil Fixed Platforms | WANG Peng | 146 |
| Quality Control of Electrical Heat Tracing Installation in Offshore Oil and LNG Projects | SHI Zhenhua, LI Zimin, ZHANG Xindong, XING Tongchao, MA Guijun | 149 |
| Research and Application of Variable Density High-temperature and Low-density Cement Slurry | GENG Guowei, YANG Zhicheng, CHUNYU Jiaying | 152 |
| Research on the Technology of Tail Pipe Rotating Insertion in Bohai Oilfield..... | HUANG Wei | 155 |
| Comparison of Heating Methods of Crude Benzene Oil-rich..... | WEI Hehua | 158 |
| Application of Thermal Efficiency Enhancement for Recycle Gas Heat Exchangers in Unipol Polypropylene Process | MA Shuai | 161 |
| Application and Optimization of Skin Effect Electric Heat Tracing in A Petrochemical Liquid Sulfur Long-distance Pipeline..... | YU Sihan | 165 |