



Q K 2 1 2 3 1 0 5

ISSN 1672- 6944

CN 32-1675/TN

2021 10 第 18 卷 Vol.18

无线互联科技

WIRELESS INTERNET TECHNOLOGY

中国核心期刊（遴选）期刊

中国学术期刊网络出版总库（中国知网）全文收录

万方数据 - 数字化期刊群全文收录

中文科技期刊数据库（维普网）全文收录

ISSN 1672-6944



9 771672 694217

10>

主管：江苏省科学技术厅

主办：江苏省科学技术情报研究所

2004年创刊

2021年第10期
(总第206期)

第18卷
半月刊

2021年5月25日

主 管: 江苏省科学技术厅

主 办: 江苏省科学技术情报研究所

编辑出版: 《无线互联科技》杂志社

社 长: 李 敏

副社长: 李克贵

主 编: 严文强

副主编: 汤 溥

编辑部主任: 王雪芬

本期责任编辑: 王雪芬

编 委: (按姓氏笔画为序)

马永浩 孙 斌

金福兰 周晓明

黄水清 薛 飞

目 次

通信观察

- | | |
|-----------------------|---------------|
| 1 Ku波段卫星通信雨衰分析及对抗措施探讨 | 高睿劼, 陆 斌, 许松松 |
| 3 广电5G时代发展前景探讨 | 杨 扬 |
| 5 5G自激对消直放站系统设计与实践 | 刘志敏 |
| 7 移动通信技术与互联网技术的结合发展研究 | 周存刚 |
| 9 智能电网发展背景下无线通信技术分析 | 李 萍 |
| 11 新基建背景下的5G产业发展研究 | 戴 超, 赵 茜 |

无线天地

- | | |
|---------------------------|--------------------|
| 13 射频技术在武警部队资源管理和考勤中的应用研究 | 姜海涵, 王 军 |
| 15 无线IO模块在抽油机远程启停中的应用 | 何莉莉, 骆明星, 李春梅, 李 勇 |
| 17 10 kW数字调幅中波发射机原理及故障分析 | 李雪松 |

网络地带

- | | |
|-----------------------------|-----|
| 19 无线网络安全风险研究及关键技术应用 | 林彦榕 |
| 21 高校计算机网络安全技术及其应用 | 王洪亮 |
| 23 基于Spark的网络日志分析系统设计与实现 | 汪小霞 |
| 25 医院信息化建设中计算机网络安全管理与维护工作思考 | 詹振坤 |
| 27 计算机网络系统集成技术及应用 | 谢家立 |
| 29 虚拟PC在计算机网络教学中的应用 | 张瑞显 |
| 31 10 kV配电网工程建设存在的问题及优化措施分析 | 吴文辉 |
| 33 院校计算机实验室安全管理策略研究 | 冯个竹 |
| 35 基于信息安全的教育信息化发展探讨 | 王伟楠 |

软件透视

- | | |
|-----------------------------------|---------------|
| 37 1+X证书制度下基于教育信息化视角的土建类书证融通云平台建设 | 刘任峰, 霍 健 |
| 39 面向数字媒体技术专业的数字化学习平台建设 | 焦 健 |
| 41 基于BIM技术的智慧家装平台研究 | 王 帆, 徐小森, 陈春苗 |
| 43 5G时代智慧旅游公共服务平台建设方案研究 | 张鸿雁, 宗 峰 |
| 46 档案管理系统和OA系统的衔接研究 | 王枫叶, 韩培玉 |

设计分析

- | | |
|--------------------------------------|-------------------------|
| 48 校园二手物品交易平台研究与设计 | 张洋洋, 王 丹, 越豪杰, 范 政, 林 浩 |
| 50 基于用户体验的微信小程序设计 | 许 烂, 潘 超 |
| 52 基于DDS技术的模拟频率调制电路设计及FPGA实现 | 牟 珊 |
| 54 基于VBA的学业提示及学籍变动统计系统设计——以天津职业大学为例 | 杨 洋 |
| 56 基于工业机器人的自动装配生产线设计 | 王 淦 |
| 58 城市智能交通管理系统的研究与设计 | 叶竹辉 |
| 60 基于互联网的老人心率健康监测系统设计 | 王篮球 |
| 63 面向用户体验的城市智慧旅游APP设计研究——以吉林市为例 | 师晓丹, 崔宇航 |
| 65 基于.net core + vue框架的教学资料管理系统设计与实现 | 彭灿华 |

技术应用

- | | |
|----------------------------|--------------------|
| 67 大数据和数据挖掘技术在智慧环境监测中的应用研究 | 韩 立, 李兰秀, 张明伟, 吴丽英 |
| 69 基于计算机网络技术的安全控制系统应用与研究 | 黄 悅 |

71 基于数据融合的分布式智能养老系统应用	徐立宇
73 互联网医疗服务平台在居家养老服务中的应用研究	王晶,彭科
75 智能网上评卷系统的技术实现探析	艾山·白克热
77 铁路信号设备电源监测系统的故障分析和改进策略研究	马春英,高艳平
79 基于电气工程及其自动化技术的电力系统自动化发展分析	尹潇宇,田树森
81 电气自动化中智能化系统技术的创新应用	童江,钱莉
83 计算机网络信息安全及其防护对策探析	李效渊,刘赛彬
85 数据加密技术策略在网络安全中的运用	田永民
87 普速铁路信号施工质量控制方法	魏斌
89 人工智能在计算机网络技术中的应用	范芳东,周卫红
91 大数据时代下计算机软件技术的应用	李永刚
93 Fireworks在开放教育毕业生图像处理中的应用	张勇
95 计算机辅助翻译教学的问题及改进对策	刘洋
97 基于拉格朗日插值法的国省干线缺失数据恢复	赵媛媛,季洁
101 基于主动式二维码+LBS技术的学生考勤管理系统应用研究	周欢,焦涛
105 大数据技术在高职院校教学改革中的应用研究	丁发红

实验研究

107 数据库大数据量存储结构研究	刘丹,任浩然
109 面向新基建的路网交通运行状态感知体系构建研究——以厦门为例	叶腾茂
112 基于大数据的C语言个性化学习分析模型的研究及应用	甘宇雨,刘勇,张桂芬
114 基于高维张量分解的个性化教育资源推荐算法研究	何英,许文
116 BP神经网络的人脸识别系统探究	韦大欢,苏燕
118 LCD用时序控制器(TCON)技术与特征研究	王靖文
120 基于神经网络题目的自动化解析研究	薛静,程达
122 机器视觉与烟支缺陷自动检测技术的融合模式研究	张月华
124 基于机器学习的认知雷达资源管理	杨洁,李国腾,曾耀平

数字教育

128 工业机器人虚拟工作站离线编程技术的教学与实施	张晓芳,秦婧,李颖
131 互联网环境下高职建筑专业科技创新团队建设研究	于微微,李晓光,赵光楠,刘峰
133 信息化环境下在线开放课程设计与实施策略	左婧
135 虚拟仿真技术在“机械拆装”教学中的应用	蓝小红
137 大数据环境在“计算机组装与维护”课程教学改革研究中的应用	程光璇,刘慧
139 基于线上教学平台的交互式教学方法研究——以“工业设计史”为例	李会芳
141 多媒体和网络技术支持下的高职“数学”教学模式	叶翼
143 混合式教学在计算机公共课程中的应用	景琪
145 “互联网+”背景下“医学信息学”课程混合式教学模式的探索与实践	欧阳婷,杨银凤,张蕾,王元茂,王丹
147 新工科背景下“电气控制与PLC”课程的混合式教学模式探究	陆玉正
149 “以赛促学,以赛促教”模式在计算机教学中的实践探索	王曼
151 数据驱动高校教学改革的发展路径分析	孙阳,李海霞
153 智能制造背景下机械专业实验教学探索	张卫芬,李永梅,董祥国,严红霞
156 信息化背景下“道路勘测设计”课程教学改革的探索与实践	赵明微,吴丽萍
158 面向“大学计算机基础”课程的二级MS Office考点分析及教学应用	职晓晓,李莉杰
160 科教融合理念下信息类专业实践类课程教学改革研究	王珂,陶华伟,廉飞宇,李卫东,段金龙
163 大数据时代下“智能视觉技术”新形态课堂探索	谢婷婷
165 信息化教学设计向课堂教学转化的探索	刘苗苗
167 基于智慧树平台的SPOC翻转课堂在高校财管专业课程中的实践研究	赵刘磊,侯荣新,杨华,魏婉莹

中国标准连续出版物号: ISSN 1672-6944
CN 32-1675/TN

邮发代号: 28-473

发行范围: 公开

发行: 江苏省报刊发行局

印刷: 南京百花彩色印刷广告制作有限公司

定 价: 40.00元

《无线互联科技》杂志社

社址: 江苏省南京市龙蟠路171号

电话: (025)-85433097
(025)-85410361

邮编: 210042

网址: www.sti.js.cn
(科技宣传—科技传媒服务中心)

邮箱: hlkj@sti.js.cn

户名: 江苏省科学技术情报研究所
账号: 4301012509001028301

开户行: 工商银行南京市板仓支行

WIRELESS INTERNET TECHNOLOGY

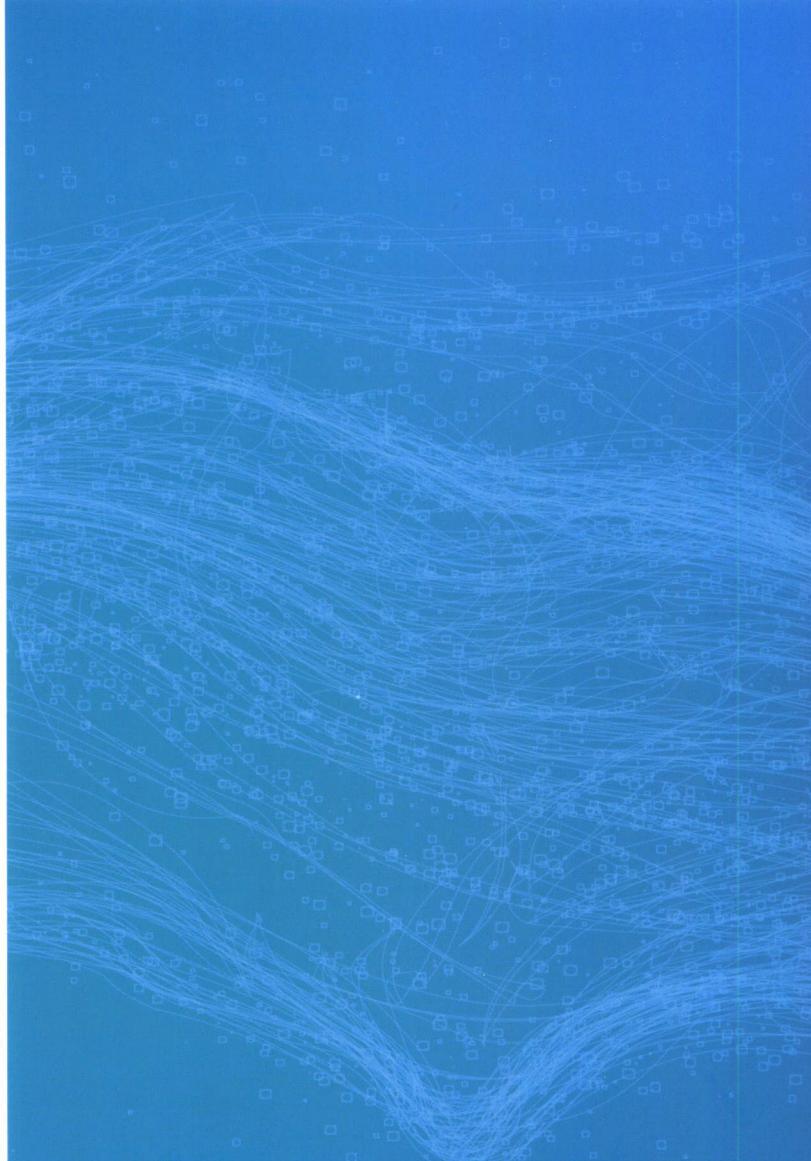
No.10 2021 (Total No.206)

CONTENTS

Analysis on rainfall and countermeasures of Ku band satellite communication	Gao Ruijie, Lu Bin, Xu Songsong (1)
Discussion on the development prospects of radio and television 5G era	Yang Yang (3)
Design and practice of 5G interference cancellation repeater system	Liu Zhimin (5)
Research on the combined development of mobile communication technology and Internet technology	Zhou Cungang (7)
Analysis of wireless communication technology in background of the development of smart grid.....	Li Ping (9)
Study on the development of 5G industries in the context of new infrastructure	Dai Chao, Zhao Xi (11)
Application of RF technology in resource management and attendance of the armed police forces	Jiang Haihan, Wang Jun (13)
Application of wireless io module in remote start and stop of pumping machine	He Lili, Luo Mingxing, Li Chunmei, Li Yong (15)
Principle and failure analysis of 10 kW digital am mw transmitter	Li Xuesong (17)
Research on wireless network security risk and application of key technologies	Lin Yanrong (19)
Computer network security technology and its application in colleges and universities	Wang Hongliang (21)
Design and implementation of spark based network log analysis system	Wang Xiaoxia (23)
Thoughts on computer network security management and maintenance in the construction of hospital information	Zhan Zhenkun (25)
Computer network system integration technology and application	Xie Jiali (27)
Application of virtual PC in computer network teaching	Zhang Ruixian (29)
Analysis of problems existing in the construction of 10 kV distribution network engineering and optimization measures	Wu Wenhui (31)
Research on security management strategy of computer laboratory in colleges	Feng Gezhu (33)
Discussion on the development of educational information based on information security	Wang Weinan (35)
Research on the construction of cloud platform of civil engineering documentary evidence integration based on the perspective of educational informatization under the 1+X certificate system	Liu Renfeng, Huo Jian (37)
Digital learning platform construction for digital media technology majors	Jiao Jian (39)
Study on intelligent home decoration platform based on BIM technology	Wang Fan, Xu Xiaosen, Chen Chunmiao (41)
Research on the construction plan of a smart tourism platform in the 5G era	Zhang Hongyan, Zong Feng (43)
Research on the connection between file management system and OA system	Wang Fengye, Han Peiyu (46)
Research and design of campus second hand goods trading platform	Zhang Yangyang, Wang Dan, Yue Haojie, Fan Zheng, Lin Hao (48)
Design on WeChat mini program based on user experience	Xu Ye, Pan Chao (50)
Design of analog frequency modulation circuit based on DDS technology and FPGA implementation	Mou Shan (52)
Design of academic tip and demotions accounting system based on VBA:taking Tianjin Vocational University as an example	Yang Yang (54)
Design of automatic assembly production line based on industrial robot	Wang Yi (56)
Research and design of urban intelligent transportation management system	Ye Zhuhui (58)
Design of heart rate health monitoring system for elderly based on Internet	Wang Lanyi (60)
Research on the design of urban smart travel APP for user experience: taking Jilin city as an example	Shi Xiaodan, Cui Yuhang (63)
Design and implementation of teaching materials management system based on .Net core + vue architecture	Peng Canhua (65)
Application of Big Data and data mining technology in intelligent environmental monitoring	Han Li, Li Lanxiu, Zhang Mingwei ,Wu Liying (67)
Application and research of security control system based on computer network technology	Huang Yue (69)
Application of distributed intelligent pension system based on data fusion	Xu Liyu (71)
Research on the application of Internet medical service platform in home pension service	Wang Jing, Peng Ke (73)
Analysis on technology realization of intelligent online marking system	Aishan Baikere (75)
Discussion and improvement on the power monitoring system of railway signal equipment	Ma Chunying, Gao Yanping (77)
Development analysis of power system automation under electrical engineering and automation technology	Yin Xiaoyu, Tian Shusen (79)
Application on innovative of intelligent system technology in electric automation	Tong Jiang, Qian Li (81)

Computer network information security and its protection countermeasures	Li Xiaoyuan, Liu Saibin (83)
Application of data encryption strategy in network security	Tian Yongmin (85)
Quality control method of signal construction of speed railway.....	Wei Bin (87)
Application of artificial intelligence in computer network technology	Fan Fangdong, Zhou Weihong (89)
Research on the practice of computer software technology in the era of Big Data.....	Li Yonggang (91)
Application of Fireworks in photo processing of open education graduates	Zhang Yong (93)
Problems and countermeasures of computer aided translation teaching	Liu Yang (95)
Missing data recovery for national and provincial highways based on lagrange interpolation method	Zhao Yuanyuan, Ji Jie (97)
Application of student attendance management system based on active QR code LBS technology	Zhou Huan, Jiao Tao (101)
Research on the application of Big Data technology in teaching diagnosis reform in higher vocational colleges	Ding Fahong (105)
Research on large data storage structure of database	Liu Dan, Ren Haoran (107)
Study on construction of traffic status perception system for new infrastructure: taking Xiamen as an example	Ye Tengmao (109)
Research and application of C language personalized learning analysis mode based on Big Data	Gan Yuyu, Liu Yong, Zhang Guifen (112)
Research and application of personalized education resource recommendation algorithm based on high-dimensional tensor decomposition	He Ying, Xu Wen (114)
Study on face recognition system of BP neural networks	Wei Dahuan, Su Yan (116)
Study on technology and characteristics of LCD sequential controller (TCON) system	Wang Jingwen (118)
Research on automatic analysis based on neural network topic	Xue Jing, Cheng Da (120)
Research on the fusion pattern of machine vision and automatic detection of tobacco defects	Zhang Yuehua (122)
Cognitive radar resource management based on machine learning	Yang Jie, Li Guoteng, Zeng Yaoping (124)
Research on the off-line programming teaching and practice based on the industrial robot virtual workstation	Zhang Xiaofang, Qin Jing, Li Ting (128)
Research on the construction of scientific and technological innovation team of architectural specialty in higher vocational colleges under the Internet environment	Yu Weiwei, Li Xiaoguang, Zhao Guangnan, Liu Feng (131)
Design and implementation strategy of online open course in information environment	Zuo Jing (133)
Application of virtual simulation technology in mechanical disassembly teaching	Lan Xiaohong (135)
Application of Big Data environment in teaching reform of “Computer Assembly and Maintenance” course	Cheng Guangxuan, Liu Hui (137)
Research on interactive teaching methods based on online teaching platform: a case study of “Industrial Design History”	Li Huifang (139)
Higher vocational “Mathematics” teaching mode supported by multimedia and network technology	Ye Yi (141)
Application of hybrid teaching in computer public curriculum	Jing Qi (143)
Exploration and practice of hybrid teaching mode in the course of “Medical Informatics” under the background of “Internet +”	Ouyang Ting, Yang Yinfeng, Zhang Lei, Wang Yuanmao, Wang Dan (145)
Study on the hybrid teaching mode of “Electrical Control and PLC” course in the new engineering background	Lu Yuzheng (147)
Practice and exploration of “promoting learning by competition and teaching by competition” mode in computer teaching	Wang Man (149)
Analysis on the development of data-driven teaching reform in colleges and universities	Sun Yang, Li Haixia (151)
Exploration on experimental teaching of mechanical specialty under the background of intelligent manufacturing	Zhang Weifen, Li Yongmei, Dong Xiangguo, Yan Hongxia (153)
Exploration and practice of teaching reform of “Road Survey and Design” under the background of informatization	Zhao Mingwei, Wu Liping (156)
Analysis and teaching application of secondary MS Office examination point for “University Computer Foundation” course	Zhi Xiaoxiao, Li Lijie (158)
Research on teaching reform of practical courses of information majors under concept of integration of scientific research and teaching	Wang Ke, Tao Huawei, Lian Feiyu, Li Weidong, Duan Jinlong (160)
New form classroom exploration of “Intelligent Vision Technology” in the era of Big Data	Xie Tingting (163)
Exploration of the transformation of information teaching design to classroom teaching	Liu Miaomiao (165)
Practical research of SPOC flipped classroom based on wisdom tree platform in financial management major courses in colleges and universities	Zhao Liulei, Hou Rongxin, Yang Hua, Wei Wanying (167)

《无线互联科技》杂志社
电 话 : 025-85433097
025-85410361
传 真 : 025-85413227
投稿邮箱 : hlkj@sti.js.cn
地 址 : 江苏省南京市龙蟠路 171 号
江苏省科学技术情报研究所
邮 编 : 210042



中国标准连续出版物号: ISSN 1672-6944
CN 32-1675/TN

邮发代号: 28-473
定价: 40.00 元