

# 广播与电视技术



## Radio & TV Broadcast Engineering

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中国邮政  
微信订阅

2020 年 | 第 47 卷 | 第 9 期

## 热点·论点

### 广电智慧运维

- |                            |                 |
|----------------------------|-----------------|
| 12 广播电视智慧运维体系研究            | 肖辉, 毕江, 王学奎, 肖锋 |
| 18 广播电视“智慧运维”人员评估模型的构建研究   | 林嗣雄             |
| 22 无线发射台智慧运维管理体系的构建        | 白永军, 任宇, 乌吉斯古冷  |
| 26 地面数字电视广播单频网“智慧运维”平台建设思考 | 常江, 刘骏, 高杨      |

### 内容制播

- |                               |         |
|-------------------------------|---------|
| 29 城市电视台超高清频道技术系统设计与实现        | 黎泳      |
| 36 高清新闻全媒体直播演播室数字音频系统设计与实现    | 牛雨迪, 蔡云 |
| 40 以用户为对象的媒资内容迁移平台设计          | 陈琼, 邓东林 |
| 46 基于人工智能的智慧媒资典型应用与实践         | 安永录     |
| 51 城市台新型“中央厨房”的技术方案设计与实现      | 林葆青     |
| 55 广播电视文件化播出与 IP 流分发系统的网络架构设计 | 周惠敏     |
| 58 广播电视节目与频道评价系统方案设计          | 黎正云     |

### 有线网络

- |                                |                            |
|--------------------------------|----------------------------|
| 63 广电智能机顶盒语音平台的建设与应用           | 何新                         |
| 67 有线电视网络安全通报预警机制技术平台和管理保障研究   | 董升来, 肖锋, 张月, 易晓峰, 苏永强, 吕金芝 |
| 71 有线电视网络可视化值班指挥调度系统的设计与实现     | 王小刚                        |
| 74 集团客户多业务传送平台业务的复用段保护相交环组网和应用 | 蒋超                         |
| 78 有线数字电视直播频道视频导航新技术的设计与实现     | 贾汇东, 杨腾, 邹刚                |
| 84 射频识别技术在广电设备和线缆管理中的应用        | 钱占飞                        |



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《广播与电视技术》是由国家广播电视总局主管,国家广播电视总局广播电视规划院主办,《广播与电视技术》编辑部编辑出版的国家级技术期刊;是发布广播电视科技政策,反映事业建设成就,介绍高新技术,交流工作经验,传播各种信息的重要媒体。本刊主要面向各级广播电视行业主管部门、各级广播电台、电视台、网络公司、发射台、微波站、卫星站、节目制作单位及电教系统,同时对企业、工矿、学校、部队等具有公共广播电视设施的管理人员、技术人员也有参考价值。

为繁荣学术交流,本刊已加入《中国学术期刊网络出版总库》、“万方数据”和“维普中文科技期刊数据库”,有权选取部分论文在本刊关联平台(如广电猎酷网 www.lieku.cn、“广电猎酷”微信公众号等)发布,作者著作权使用费已随论文稿酬一次性给付。本刊充分尊重作者的原创成果并合理保护作者享有的权利,如作者不同意本刊之外其他形式的发布,请在来稿中声明,本刊将作适当处理。本刊及主办单位对本刊已发布作品的内容和观点不持有任何立场、不做出任何承诺或保证、不承担任何责任。

# 目次

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投稿平台 [tougao.lieku.cn](http://tougao.lieku.cn)



中国邮政  
微信订阅

2020年 | 第47卷 | 第9期

## 无线覆盖

- 87 智慧广电发射台网建设研究 **黎建, 刘卫宏, 刘刚, 舒智慧**
- 92 700MHz 频段 5G 收发双工器的原理与设计 **许彦超, 王轶冬**
- 96 广电 IP 微波设备与交换机连接链路聚合分析 **赵倩**
- 99 小功率调频广播覆盖预测方法研究与实践 **鲁云驹**

## 安全播出与监测监管

- 105 全流程一体化的广播电视网络安全保障体系研究 **盛承红, 胡宝胜**
- 110 网络短视频内容智能分析监测系统设计 **任彦如**
- 113 基于声纹识别的广告监测系统研究与建设 **彭小光, 吕连新, 吴洁, 单雪松**
- 117 基于大数据的互联网视听节目监管系统建设 **包力伟**

## 论述·点评

- 122 广电省级 5G 平台建设发展的分析和思考 **楼昶, 李仲祥, 高峰**
- 126 视音频测试测量技术对比分析 **孙荣**

广告索引 P130



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# 导读

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2020年 | 第47卷 | 第9期

## 〔12〕 广播电视智慧运维体系研究

当前，智慧广电建设已经成为业界共识，智慧运维作为智慧广电的有机组成部分，也日益受到更多的关注。本文围绕广播电视智慧运维体系开展研究，提出了智慧运维体系建设的框架和思路，并从智慧运维的对象、资源、管理和安全保障等方面论述了体系建设内容，有望通过广电智慧运维体系建设，有效解决广播电视运维水平发展滞后的难题，实现进一步加强广播电视系统运维和安全传输保障能力的目标。

## 〔29〕 城市电视台超高清电视频道技术系统设计与实现

广州台4K超高清电视频道于2020年6月8日正式开播，在城市电视台推出超高清电视频道方面作了有益探索，本文对4K超高清电视频道的技术系统设计与实现方案进行较为全面的归纳总结，可供业界同行参考。

## 〔63〕 广电智能机顶盒语音平台的建设与应用

如何有效提升有线电视网络业务的交互体验一直是困扰有线网络运营商的难点问题。伴随着人工智能技术的发展，采用语音识别技术来进一步丰富用户的交互方式，进一步增强交互的便利性成为可能。本文介绍了北方广电在“小精灵”智能机顶盒产品中采用人工智能语音识别技术，构建广电智能机顶盒语音平台的探索实践和可喜成果，值得业界同行参考借鉴。

## 〔105〕 全流程一体化广电网络安全保障体系研究

新技术在广电行业的应用以及媒体融合的发展，对广播电视网络安全提出了更高的要求。本文结合省级广电行业实际情况，设计了事前、事中、事后全流程安全管理体系，与安全技术体系相融合的一体化网络安全保障体系，可达到攻击态势可感知、安全事件可溯源、应急响应快处置的主动防御目标。系统平台在安徽省广播电视监测台应用一年多时间，发现全省广电行业网站高危漏洞等风险数百起，取得了良好的效益。

## 〔122〕 广电省级5G平台建设发展的分析和思考

广电5G建设是当前广电业界比较关注的一个热点话题，也是一个实践性比较强的一个工程课题。本文着眼于省级广电网络如何建设5G平台，围绕广电5G发展路径、广电5G系统架构、广电5G业务合作模式、成本收益分析等方面展开研究分析，所述内容可资参考。



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# Contents

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September 2020 No.9

## Intelligent Operation and Maintenance in Radio and TV

- 12 Research on Intelligent Operation and Maintenance System of Radio and Television *By Xiao Hui, Bi Jiang, Wang Xuekui, Xiao Feng*
- 18 Research on Construction of Personnel Evaluation Model of "Smart Operation and Maintenance" in Radio and TV *By Lin Sixiong*
- 22 Construction of Intelligent Operation and Maintenance Management System for Wireless Transmitting Station *By Bai Yongjun, Ren Yu, Wu Jisiguleng*
- 26 Thoughts on Construction of "Intelligent Operation and Maintenance" Platform for Single Frequency Network of Terrestrial Digital Television Broadcasting *By Chang Jiang, Liu Jun, Gao Yang*

## Content Production & Broadcasting

- 29 Design and Implementation of UHD Channel Technology System in Urban TV Station *By Li Yong*
- 36 Design and Implementation of Digital Audio System for Omni-Media High Definition News Live Studio *By Niu Yudi, Cai Yun*
- 40 Design of User-Oriented Media Content Migration Platform *By Chen Qiong, Deng Donglin*
- 46 Typical Application and Practice of Intelligent Media Asset Management System Based on Artificial Intelligence *By An Yonglu*
- 51 Design and Implementation of Technical Scheme on New Type "Central Kitchen" in Urban TV Station *By Lin Baoqing*
- 55 Network Architecture Design of File-based Broadcast and IP-based Stream Distribution System *By Zhou Huimin*
- 58 Scheme Design of Evaluation System for Radio and Television Programs and Channels *By Li Zhengyun*

## CATV

- 63 Construction and Application of Voice Platform for Intelligent Set Top Box of Radio and Television *By He Xin*
- 67 Research on Technical Platform and Management Guarantee of Security Notification and Early Warning Mechanism for CATV Network *By Dong Shenglai, Xiao Feng, Zhang Yue, Yi Xiaofeng, Su Yongqiang, Lv Jinzhi*
- 71 Design and Implementation of Visual On-duty Command and Dispatch System in CATV Network *By Wang Xiaogang*
- 74 Networking and Application of Multiplex Section Protection Intersecting Ring for Group Customers' Multi-Service Transport Platform Business *By Jiang Chao*
- 78 Design and Implementation of New Technology for Video Navigation of Digital Cable Television Channel *By Jia Huidong, Yang Teng, Zou Gang*
- 84 Application of RFID Technology in Radio and Television Equipment and Cable Management *By Qian Zhanfei*

## Wireless Coverage

- 87 Research on Management Network Construction of Smart Radio and Television Transmitting Station *By Li Jian, Liu Weihong, Liu Gang, Shu Zhihui*
- 92 Principle and Design of 5G Transceiver Duplexer in 700MHz Frequency Band *By Xu Yanchao, Wang Yidong*
- 96 Analysis on Link Aggregation of IP Microwave Equipment and Switch in Radio and Television *By Zhao Qian*
- 99 Research and Practice of Coverage Prediction Methods for Low-power FM Radio *By Lu Yunju*

## Safety Broadcasting & Monitoring

- 105 Research on Security Guarantee System of Radio and Television Network Based on Whole Process and Integration *By Sheng Chenghong, Hu BaoSheng*
- 110 Design of Intelligent Analysis and Monitoring System for Network Short Video Content *By Ren Yanru*
- 113 Research and Construction of Advertising Monitoring System Based on Voiceprint Recognition *By Peng Xiaoguang, Lv Lianxin, Wu Jie, Shan Xuesong*
- 117 Construction of Internet Audiovisual Program Monitoring and Supervision System Based on Big Data Technology *By Bao Liwei*

## Elaboration & Commentary

- 122 Analysis and Thinking on Construction and Development of Provincial-level 5G Platform of Radio and Television *By Lou Chang, Li Zhong Xiang, Gao Feng*
- 126 Comparative Analysis of Video and Audio Test and Measurement Technology *By Sun Rong*



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# Index

**One of Hundred National Key Periodicals**  
**A Core Professional Sci-Tech Periodical**  
[tougao.lieku.cn](http://tougao.lieku.cn)

September 2020 No.9

## [ 12 ] Research on Intelligent Operation and Maintenance System of Radio and Television

At present, smart radio and television construction has become a consensus in the industry. As an integral part of smart radio and television, smart operation and maintenance is also receiving more and more attention. This paper focuses on research of smart operation and maintenance system in radio and television, proposes framework and ideas for construction of smart operation and maintenance system, and discusses system construction content from aspects of objects, resources, management and security in smart operation and maintenance. It is expected that intelligent operation and maintenance system in radio and television can effectively solve lagging development problem of radio and television operation and maintenance level, and achieve the goal of further strengthening operation and maintenance and security transmission guarantee capabilities of radio and television system.

## [ 29 ] Design and Implementation of UHD Channel Technology System in Urban TV Station

4K UHD TV channel of Guangzhou TV Station was officially launched on June 8, 2020. It has made useful explorations for urban TV station to launch UHD TV channel. This paper comprehensively summarizes technical system design and implementation of 4K UHD TV channels, which can be referred by peers in the industry.

## [ 63 ] Construction and Application of Voice Platform for Intelligent Set Top Box of Radio and Television

How to effectively improve interactive experience of CATV network services has been a difficult problem for CATV network operators. With development of artificial intelligence technology, it is possible to use speech recognition technology to further enrich user's interaction methods and enhance interaction convenience. This paper introduces exploration practice and gratifying results of applying artificial intelligence speech recognition technology to construct voice platform of intelligent STB products "elf" in Northern United Broadcasting Television Network Corporation, which is worthy of reference by industry peers.

## [ 105 ] Research on Security Guarantee System of Radio and Television Network Based on Whole Process and Integration

New technology application in radio and television industry and media convergence development have put forward higher requirements for radio and television network security. Based on actual situation of provincial-level radio and television industry, this paper designs a security management system for the whole process before, during and after event, which is integrated with security technology system to form an integrated network security assurance system. It can achieve active defense goal of perceivable attack situation, traceable security incident, and quick emergency response. The system platform has been used in Anhui Radio and Television Monitoring Station for more than a year, and hundreds of high-risk vulnerabilities have been discovered in radio and television websites of Anhui, which achieves good benefits.

## [ 122 ] Analysis and Thinking on Construction and Development of Provincial-level 5G Platform of Radio and Television

5G radio and television construction is a hot topic in current radio and television industry, and it is also a practical engineering subject. This paper focuses on how to build a 5G platform for provincial broadcasting and television networks, and conducts research and analysis on development path, system architecture, business cooperation mode and cost-benefit analysis and other aspects of 5G in radio and television. It is worthy of reference.