Technical Sessions

Wednesday, August 4, 2021

Oral Session

Session Time	
	Session A1: Multimedia Transmission-1
1:00PM - 1:20PM	DE-aided ANMSA with edge classification and its application for 5G-NR LDPC Codes Ziqi Zhou, Tsinghua University
1:20PM - 1:40PM	Non-Equiprobable Non-Uniform APSK Constellations Design for BICM Systems Xiaohan Duan, Shanghai Jiao Tong University
1:40PM - 2:00PM	Using LDM-based Layered Multicast to Enhance System Capacity Yiwei Zhang, Shanghai Jiao Tong University
2:00PM – 2:20PM	Novel Cooperative Automatic Modulation Classification by Credit-based Consensus Fusion Xiao Yan, University of Electronic Science and Technology of China
2:20PM – 2:40PM	Efficient Multicast Schemes in Vehicle Network Based on Luby Transform Codes Xu Bin, Shanghai Jiao Tong University
	Session A2: AI, Next generation systems
3:10PM – 3:30PM	An Adaptive Template Update Network for Siamese Trackers Tianyu Zhang, Beijing University of Posts and Telecommunications
3:30PM – 3:50PM	Network intrusion detection based on Contractive Sparse Stacked Denoising Autoencoder Guo Yihao, Beijing University of Posts and Telecommunications
3:50PM – 4:10PM	A Fault Data Generation Algorithm Based on GAN and Policy Gradient Mechanism Yuting Li, State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, Beijing, China
4:10PM – 4:30PM	Multi-dimensional Data Correlation Analysis Method Based on Neighborhood Preserving Embedding Mechanism Zhongdi Ge, Beijing University of Posts and Telecommunications
4:30PM – 4:50PM	Fault Root Rank Algorithm Based on Random Walk Mechanism in Fault Knowledge Graph Yin Dong Sun, Beijing University of Posts and Telecommunications

Poster Session

Session Time	
	Poster Session A1
3:00PM – 5:00PM	Fingerprint-based Positioning Method over LTE Advanced Pro Signals with GAN training contribute
	Enabling the DVB-I reference client for 5G Broadcast reception – Verification of the overall system
	A DAB+ Approach for Vehicular Tracking
	Unsupervised Learning for D2D-Assisted Multicast Scheduling in mmWave Networks

2021 IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB) | 978-1-6654-4908-3/21/$31.00 ©2021 IEEE | DOI: 10.1109/BMSB53066.2021.9547160

3:00PM – 5:00PM	Urban SigFox-based mobility System
	Using user's position to improve video multicast subgrouping in 5G NR
	Unsupervised Learning for D2D-Assisted Multicast Scheduling in mmWave Networks
	5G SA Multi-vendor Network Interoperability Assessment
	Target 5G visible light positioning signal subcarrier extraction method using particle swarm optimization algorithm
	A Machine Learning Solution for Automatic Selection of Cellular Networks to Enhance Users' Quality of Service
	On the Feasibility of 5G Massive Concurrent Video Uplink

Online Q&A Session

Online Q&A Session A1-1
Wireless Positioning System Architecture for Terrestrial Broadcast-Broadband-Convergent Networks Sungjun Ahn, ETRI
Multi-Kernel Deformable 3D Convolution for Video Super-Resolution Tianyu Dou, University of Ottawa
Photograph enhancement via imitation-to-innovation training scheme Yi Feng, University of Ottawa
5G Multicast Broadcast Services Performance Evaluation Álvaro Ibanez Latorre, Universidad Politécnica de Valencia
Few Pains, Many Gains: Fast On-device Image Compression through Super Resolution Xian Zhang, Beijing University of Posts and Telecommunications
Dynamic Access control and Slice Allocation algorithm for diverse traffic demand over 5G heterogeneous networks Claudia Carballo Gonzalez, Havana University of Technologies
Simulated Annealing Optimisation for Optimising 5G Visible Light Communications Location Measurements Kareem Ali, Brunel University
RTK Correction Data Transmission Service for Autonomous-Driving via ATSC 3.0 in South Korea Hong-Gi Shin, MBC
A SVM based extrinsic calibration method for RGB-D camera Xiao Chen, Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University
Novel Device-Free Indoor Human Localization using Wireless Radio-Frequency Fingerprinting Prasanga Neupane, Louisiana State University
Online Q&A Session A1-2
Novel Indoor Device-Free Human Tracking Using Learning Systems with Hidden Markov Models Guannan Liu, Louisiana State University
TV-Centric Health Monitoring Leveraging the HbbTV Architecture in a Smart Home Environment Cristinel Gavrila, Transilvania University of Brașov
Non-Point Visible Light Transmitter Localization based on Monocular Camera Hongxiu Zhao, ISEP
Limitations of ATSSS technology in ATSC 3.0 – 5G convergent systems Carlos Barjau, Universidad Politécnica de Valencia
Cross-Layer Joint Optimization Algorithm for Adaptive Video Streaming in MEC-Enabled Wireless Networks Yashar Farzaneh, Dublin City University
AI-based Inter-Tower Communication Networks: Challenges and Benefits Iñigo Bilbao, Unibersity of the Basque Country (UPV/EHU)

ATSC 3.0 Broadcast Core Network for Next-Generation Media Delivery Rufino R Cabrera, University of the Basque Country
Enabling Convergence of Broadcast and Broadband Using Layered Division Multiplexing for 5G and Beyond Yu Xue, University of Toronto
A Joint Backscatter and VLC-NOMA Communication Scheme for B5G/6G umMTC System Dayu Shi, ISEP
An Adaptive Resolution Scheme for Performance Enhancement of a Web-based Multi-User VR Application Rishabh Pathak, Dublin City University
Online Q&A Session A1-3
ATSC 3.0 Multi-Antenna Receiver’ s Mobile Performance in Seoul and the Metropolitan Area Sung-Ik Park, ETRI
Impact of Cross-Polarization Discrimination for ATSC 3.0 MIMO System Hoiyoon Jung, ETRI
Remote Production System Concept Utilizing Optical Networks and Proof-of-concept for 8K Production Yasuhiro Mochida, NTT
A Robust Broadcast System Under Time-Varying Channels Based on OTFS Modulation Hyeongseok Kim, Korea Maritime and Ocean University
In-Band Distribution Link Signal Detection in ATSC 3.0 Zhihong Hong, Communications Research Centre Canada
Prediction of Signal Quality and SFN Interference Metrics Using Machine Learning Models Dariel Pereira Ruisánchez, LACETEL
New Study of DTV Transmitter-Identification Sequence Capacity Shih Yu Chang, San Jose State University
Thresholds of outperformance among Broadcast/Multicast access techniques in 5G networks Ernesto Fontes Pupo, University of Cagliari
Three-stages concatenated Machine Learning model for SFN prediction Claudia Carballo Gonzalez, Havana University of Technologies
Smart Cities Mobility Monitoring through Automatic License Plate Recognition and Vehicle Discrimination Matteo Anedda, University of Cagliari
Online Q&A Session A1-4
Study on 4-Layer Layered Division Multiplexing using ATSC 3.0 Broadcasting System JaeHwui Bae, Electronics and Telecommunications Research Institute
Improved Repetition Transmission for NR-MBS Seok-Ki Ahn, ETRI
Performance Evaluation of Rel-16 5G-MBMS Seok-Ki Ahn, ETRI
A Fairness-Driven Resource Allocation Scheme Based on Weighted Interference Graph in HetNets Bharat Agarwal, Dublin City University
Implementation and Field Verification of ATSC 3.0 On-Channel Repeater Sunhyoung Kwon, ETRI
Novel Electronic Logistic Coding Using Software-Defined Multiplexing Codes Elaine Sun, National Tsing Hua University
Transmitter Carrier Offset in ATSC 3.0 Systems: Laboratory Test Results over Multipath Fading Channels Haechan Kwon, ETRI
Non-Orthogonal Multiple Access in 5G from the Energy Efficiency Perspective Aritz Abuin, University of the Basque Country (UPV/EHU)
Impact of HPA nonlinearities and Predistortion Techniques in LDM Satellite Systems Aleksandr Gelgor, Peter the Great St.Petersburg Polytechnic University
Latency Comparison of MMT and ROUTE/DASH for the Transport Layer of the TV 3.0 Project Allan S S Chaubet, Mackenzie Presbyterian University

Thursday, August 5, 2021

Oral Session

Session Time	
	Session B1: Multimedia Service, Quality and Content-1
8:30AM – 8:50AM	Authorization for Access in Fog Radio Access Networks Yang Liu, Beijing University of Posts and Telecommunications
8:50AM – 9:10AM	Resource Allocation for Componentized Multimedia Service in Ubiquitous Computing Power Environment Jingchun Li, Beijing University of Post and Telecommunications
9:10AM – 9:30AM	BQE-CVP: Blind Quality Evaluator for Colored Point Clouds Based on Visual Perception Lei Hua, Ningbo University
	Session B2: Multimedia Signal Processing-1
8:30AM – 8:50AM	HRTF-based data augmentation method for acoustic scene classification Chuang Shi, University of Electronic Science and Technology of China
8:50AM – 9:10AM	Novel Radio-Frequency Fingerprint Recognition Scheme Using Multiwavelets-Based Cyclic-Spectrum Graph Analysis Qian Wang, University of Electronic Science and Technology of China
9:10AM – 9:30AM	Random Forest Based Fast CU Partition for VVC Intra Coding Quan He, Chongqing University of Posts and Telecommunications
	Session B3: Multimedia Service, Quality and Content-2
10:00AM – 10:20AM	Intelligent Pain Management System Based On IoT Technology Shaojie Yang, Beijing University of Posts and Telecommunications
10:20AM – 10:40AM	Multi-Granularity Decomposition for Componentized Multimedia Applications based on Graph Clustering Ziliang Wang, Beijing University of Posts and Telecommunications
10:40AM – 11:00AM	An Optimal and Lightweight Convolutional Neural Network for Performance Evaluation in Smart Cities based on CAPTCHA Solving Stephen Dankwa, University of Electronic Science and Technology of China
11:00AM – 11:20AM	A Computational Offloading Method Based on Resource Joint Optimization Dai Song, Beijing University of Posts and Telecommunications
	Session B4: Multimedia Transmission-2
10:00AM – 10:20AM	UAV Resource Cooperation Based on Reinforcement Learning Mingang Shan, Shanghai Jiao Tong University
10:20AM – 10:40AM	Voice Bearing Technology for Multi-Operator Shared 5G Network Guiqing Liu, China Telecom Corporation
10:40AM – 11:00AM	A Hybrid LDM, TDM and Hierarchical Modulation signal structure for In-band Distribution Link transmission in SFN Lidie Liu, Shanghai Jiao Tong University
11:00AM – 11:20AM	A Frequency Interleaver Scheme with Cyclic Shift for LTE-based 5G Terrestrial Broadcasting Hao Ju, Shanghai Jiao Tong University
11:20AM – 11:40AM	Deep reinforcement learning based multicast mode selection for SFN Hao Cheng, Shanghai Jiao Tong University
	Session B5: Immersive Image Processing and Applications
1:00PM - 1:20PM	Lossless Point Cloud Attribute Compression with Normal-based Intra Prediction Qian Yin, University of Electronic Science and Technology of China

1:20PM - 1:40PM	No-reference Panoramic Image Quality Assessment based on Ajacent Pixels Correlation Wenxin Ding, Shanghai University
1:40PM - 2:00PM	RAI-Net: Range-Adaptive LiDAR Point Cloud Frame Interpolation Network Lili Zhao, University of Electronic Science and Technology of China
2:00PM – 2:20PM	Light Field Image Quality Assessment Using Contourlet Transform Hailiang Huang, Huaqiao University
2:20PM – 2:40PM	Reduced-Reference 3D Image Quality Measurement via Spatial to Gradient Domain Feature Aggregation Jian Ma, Anhui University
Session B6: Multimedia Transmission-3	
1:00PM - 1:20PM	Research on 5G Wireless Networks and Evolution Guiqing Liu, China Telecom Group
1:20PM - 1:40PM	A Spectrum Sensing Algorithm for DTMB-A based on Accumulated Autocorrelation of Multiple Frames Huang Yunchuan, Tsinghua University
1:40PM - 2:00PM	Deep Reinforcement Learning for Spectrum Sharing in Future Mobile Communication System Sizhuang Liu, Tsinghua University
2:00PM – 2:20PM	Piecewise Linear Interpolation based LOG-BP algorithm for 5G LDPC codes Xu Bin, Shanghai Jiao Tong University
2:20PM – 2:40PM	Experimental Testing of High-Capacity Bandwidth Efficient Visible Light Communication with Silicon-based RGBY-LED Yuhao Wang, Nanchang University
Session B7: Multimedia Networking-1	
3:10PM –3:30PM	Configurable Low Delay Congestion Control Scheme for Cellular Network Weijia Huang, Shanghai Jiaotong University
3:30PM –3:50PM	An optimized Inactivation Decoding of BATS Codes Juan Yang, University of Electronic Science and Technology of China
3:50PM –4:10PM	Study on Chinese State Grid 230MHz Private 5G Network Jianqi Li, Electric Power Intelligent Sensing Technology and Application State Grid Corporation Joint Laboratory , Global Energy Interconnection Research Institute Co., Ltd. (GEIRI)
Session B8: Multimedia Signal Processing-2	
3:10PM –3:30PM	Low-complexity acoustic scene classification using data generation based on primary ambient extraction Chuang Shi, University of Electronic Science and Technology of China
3:30PM –3:50PM	Video Enhancement Based on Unpaired Learning Jinjin Chen, Shanghai Jiao Tong University
3:50PM –4:10PM	3D-BitNet: Flow-Agnostic and Precise Network for video Bit-Depth Expansion Wen Geyingjie, Shanghai Jiao Tong University

Online Q&A Session

Online Q&A Session B1-1
An Adaptive Template Update Network for Siamese Trackers Tianyu Zhang, Beijing University of Posts and Telecommunications
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Reduced-Reference 3D Image Quality Measurement via Spatial to Gradient Domain Feature Aggregation Jian Ma, Anhui University
Random Forest Based Fast CU Partition for VVC Intra Coding Quan He, Chongqing University of Posts and Telecommunications
RGB-Based No-Reference Depth Map Quality Assessment Method Meng Yang, Xi'an Jiaotong University
Online Q&A Session B1-3
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Non-Equiprobable Non-Uniform APSK Constellations Design for BICM Systems Xiaohan Duan, Shanghai Jiao Tong University
UAV Resource Cooperation Based on Reinforcement Learning Mingang Shan, Shanghai Jiao Tong University
Buffer Displacement Based Online Learning Algorithm For Low Latency HTTP Adaptive Streaming Mingyue Hao, Shanghai Jiao Tong University

SpaAbr: Size Prediction Assisted Adaptive Bitrate Algorithm for Scalable Video Coding Contents Jinghao Yuan, Shanghai Jiao Tong University
Voice Bearing Technology for Multi-Operator Shared 5G Network Guiqing Liu, China Telecom Corporation
Early Drop: A Packet-Dropping Incentive Rate Control Mechanism to Keep Data Fresh under Heterogeneous QoS Requirements Yiqin Tan, Tsinghua University
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Online Q&A Session B1-4
Deep Reinforcement Learning for Spectrum Sharing in Future Mobile Communication System Sizhuang Liu, Tsinghua University
Configurable Low Delay Congestion Control Scheme for Cellular Network Weijia Huang, Shanghai Jiaotong University
A Frequency Interleaver Scheme with Cyclic Shift for LTE-based 5G Terrestrial Broadcasting Hao Ju, Shanghai Jiao Tong University
Design of a next generation 5G broadcasting core network in China Zhixin Liu, Shanghai Jiao Tong University
Efficient Multicast Schemes in Vehicle Network Based on Luby Transform Codes Xu Bin, Shanghai Jiao Tong University
Piecewise Linear Interpolation based LOG-BP algorithm for 5G LDPC codes Xu Bin, Shanghai Jiao Tong University
An optimized Inactivation Decoding of BATS Codes Juan Yang, University of Electronic Science and Technology of China
Deep reinforcement learning based multicast mode selection for SFN Hao Cheng, Shanghai Jiao Tong University
Application of Federated Learning in Industrial Internet with Device Identifier Zhang Xu, China Academy of Information and Communications Technology
Study on Chinese State Grid 230MHz Private 5G Network Jianqi Li, Electric Power Intelligent Sensing Technology and Application State Grid Corporation Joint Laboratory， Global Energy Interconnection Research Institute Co., Ltd. (GEIRI)
Experimental Testing of High-Capacity Bandwidth Efficient Visible Light Communication with Silicon-based RGBY-LED Wang Yuhao, Nanchang University

Friday, August 6, 2021

Oral Session

Session Time	
	Session C1: Multimedia Networking-2
9:00AM –9:20AM	Buffer Displacement Based Online Learning Algorithm For Low Latency HTTP Adaptive Streaming Mingyue Hao, Shanghai Jiao Tong University
9:20AM –9:40AM	SpaAbr: Size Prediction Assisted Adaptive Bitrate Algorithm for Scalable Video Coding Contents Jinghao Yuan, Shanghai Jiao Tong University
9:40AM –10:00AM	Early Drop: A Packet-Dropping Incentive Rate Control Mechanism to Keep Data Fresh under Heterogeneous QoS Requirements Yiqin Tan, Tsinghua University
10:00AM –10:20AM	Design of a next generation 5G broadcasting core network in China Zhixin Liu, Shanghai Jiao Tong University
10:20AM –10:40AM	Application of Federated Learning in Industrial Internet with Device Identifier Zhang Zu, China Academy of Information and Communications Technology

Poster Session

Session Time	
	Poster Session C1
9:00AM – 10:30AM	Performance Analysis of Machine Learning-based Face Detection Algorithms in Face Image Transmission over AWGN and Fading Channels
	Wireless Sensor or Access-Point Deployment Using Coverage-Area Maximization over Visibility Graph
	Evaluation of LDPC codes and Layered Division Multiplexing in Digital Radio Mondiale Plus
	On Wireless Channel Classification Based on CP-OFDM System
	A Low-Complexity Hybrid Precoding Scheme for mmWave MIMO Systems with Dynamic Subarrays
	8K-UHD service platform using SHVC for ATSC 3.0-based terrestrial broadcasting
	ACARS Signal Source Generation and Recognition Based on Convolutional Neural Network
	An Efficient Network for Boosting Human Pose Estimation
	An Efficient Networking Approach for Broadband PLC Networks
	On the Aliasing-Elimination for CAS Channel Estimation