VTC2019-Spring Papers

1. Antenna Systems, Propagation, and RF Design Papers

28879

1 3.5 GHz Coverage Assessment with a 5G Testbed
Adrian Schumacher, Ruben Merz, Swisscom (Switzerland) Ltd.; Andreas Burg, EPFL

86970

2 3-D Ray Tracing Based GPU Accelerated Field Prediction Radio Channel Simulator
Juha Pyhtilä, Pekka Sangi, University of Oulu; Heikki Karvonen, University of Oulu / Centre for Wireless Communications; Markku Juntti, Markus Berg, Erkki Salonen, Aarno Pärssinen, Rameez Lighari, University of Oulu

68163

3 Downlink Performance Using Vehicle Glass Mounted Antenna for 28-GHz Band in High Mobility Environment
Minoru Inomata, Tetsuro Imai, Daisuke Kitayama, NTT DOCOMO, INC.; Toshiki Sayama, Osamu Kagaya, Shoji Hideaki, Shoichi Takeuchi, Kiyoshi Nobuoka, AGC, INC.; Shoji Itoh, Ericsson; Hideshi Murai, Ericsson Japan; Arne Simonsson, Peter Ökvist, Ericsson Research

36302

4 Estimation of the Velocity of Multiple Moving Persons in Non-Stationary Indoor Environments from Received RF Signals
Rym Hicheri, University of Agder, Norway; Matthias Pätzold, University of Agder

47710

5 Neural Network Based Denoising in the Wireless Channel Characterization
Zhang Jiachi, Shandong Jiaotong University; LiuLiu, Tao Zhou, Wang Kai, Beijing Jiaotong University; Piao Zheyan, Shandong Jiaotong University

99627

6 NLOS Identification for Wideband mmWave Systems at 28 GHz
An Huang, Lei Tian, Tao Jiang, Zhang Jianhua, Beijing University of Posts and Telecommunications

82422

7 Dual-Band Inverted F-Shaped Antenna Array for Sub-6 GHz Smartphones
Zhengjuan Tian, Rui Chen, Changle Li, Xidian University

21085

8 Internal Crosstalk Calibration for a Fully-Switched MIMO Channel Sounder
Eun Ae Lee, Junseok Kim, Pohang University of Science and Technology (POSTECH); Hyuk-Je Kim, Young-Jun Chong, Electronic Telecommunications Research Institute (ETRI); Joon Ho Cho, Pohang University of Science and Technology (POSTECH)

48785

9 Millimetre Wave Propagation Reverse Measurements for 5G Urban Micro Scenario
Saurav Dahal, Euripides Andrew Stephanou, Nathaniel Talukdar, Shabbir Ahmed, Horace King, Mike Faulkner, Victoria University

2. Signal Transmission and Reception Papers

30226

1 A kind of Complementary Codes with Full-Diversity Gain over Frequency Selective Fading Channels
Sun siyue, Songling Lv, Feng Tian, Guang Liang, Shanghai Engineering Center for Micro-satellites P.R. China; Kun Wang, Huawei Technologies Co., Ltd, Shanghai, China

37341

2 Belief Propagation Receivers for Near-Optimal Detection of Nonlinearly Distorted OFDM Signals
Sergey Zhidkov, Cifrasoft Ltd.; Rui Dinis, Universidade Nova de Lisboa

25379

3 Channel estimation strategy for LPWA transmission at low SNR: application to Turbo-FSK
Vincent Berg, CEA; Jean-Baptiste Doré, CEA-LETI MINATEC; Valérian Mannoni, CEA

62135

4 Inter-frequency radio signal quality prediction for handover, evaluated in 3GPP LTE
Caroline Svahn, Oleg Sysoev, Linköping University; Mirsad Cirkic, Ericsson Research, Linköping; Fredrik Gunnarsson, Ericsson Research; Joel Berglund, Ericsson Research, Linköping, Sweden

40752

5 Performance Analysis of Distributed Transmit Beamforming with Quantized Channel Feedback
Chang Kyung Sung, CSIRO; Ishtiaq Ahmad, Gottfried Lechner, University of South Australia; Hajime Suzuki, CSIRO

66577

6 Rectangular Differential OFDM with index modulation
Lixia Xiao, Pei Xiao, University of Surrey; Yue Xiao, Chaowu Wu, University of Electronic Science and Technology of China; De Mi, Institute for Communication Systems (ICS), University of Surrey; Ibrahim Hemadeh, University of Surrey

16653

7 Reweighted ?1-VFF Modified RLS-based Channel Estimator for OFDM-IDMA Systems
Olutayo O. Oyerinde, University of the Witwatersrand

29260

8 Spectrum Efficient Support of IEEE 802.11ba in an IEEE 802.11ax Network
Leif Wilhelmsson, Miguel M. López, Ericsson AB

57910

9 A machine learning approach for detecting ultrasonic echoes in noisy environments
Mohamed Elamir Mohamed, valeo schalter und sensoren gmbh; Heinrich Gotzig, Valeo Schalter und Sensoren; Raoul Zöllner, Hochschule Heilbronn; Patrick Mäder, Technische Universität Ilmenau

52195

10 A Proposal for Scalable 5G New Radio Frames
Hedaia Ghannam, Izzat Darwazeh, University College London

97826

11 Artificial Jamming Assisted Secure Transmission for MISO-NOMA Networks
Wei Wang, Nan Zhao, Dalian University of Technology; Yunfei Chen, University of Warwick; Jie Tang, Xiu-Yin Zhang, South China

University of Technology; Zhiguo Ding, Lancaster University; Norman C. Beaulieu, Beijing University of Posts and Telcommunications

30041

12 Efficient Analog Beamforming with Dynamic Subarrays for mmWave MU-MISO Systems
Hongyu Li, Zihuan Wang, Ming Li, Dalian University of Technology; Wolfgang Kellerer, Technical University of Munich

11831

13 Energy Efficiency Maximization of AF Relaying SWIPT Systems with Energy Recycling
Chuanping Li, Peiran Wu, Minghua Xia, Sun Yat-sen University

32760

14 Joint Estimation of Channel and IQ Imbalance in Media-based Modulation
Bharath Shamasundar, A. Chockalingam, Indian Institute of Science, Bangalore

89539

15 Joint IWMMSE-based Channel Estimation and Finsler-Manifold-based Codebook for the Design of V2X FDD Massive MIMO Systems
Hong-Yunn Chen, National Taiwan University; Cheng-Fu Chou, NTU; Leana Golubchik, Department of Computer Science University of Southern California

33842

16 Low-Complexity Computation of Zero-Forcing Equalizers for Massive MIMO-OFDM
Kun Chen-Hu, Ana García-Armada, Universidad Carlos III de Madrid

67900

17 Mutual-Information-Based Successive Cancellation List Decoding of Polar Codes
Shubham K Jha, Indian Institute of Science Bangalore; Kuntal Deka, Indian Institute of Technology Goa; Shilpa Rao, Indian Institute of Information Technology Guwahati

60074

18 Non-Coherent Symbol Detection with TOA Estimation for Nanocommunication Networks
Pankaj Singh, Yeungnam University; Byung-Wook Kim, Hoseo University; Sung-Yoon Jung, Yeungnam University

89389

19 On Short Term Fairness and Throughput of User Clustering for Downlink Non-Orthogonal Multiple Access System
Mohanad Mohammed Al-Wani, ADUWATI SALI, Universiti Putra Malaysia; Asem A. Salah, University of Malaya; Borhanuddin Mohammed Ali, Prof. Nor Kamaria Noordin, S. J. Hashim, Universiti Putra Malaysia; Keivan Navaie, Lancaster University; Bruce Leow, University Teknologi Malaysia

58104

20 On the Outage Probability of Cooperative 5G NOMA at Intersections
Baha Eddine Youcef Belmekki, ENSEEIHT; Abdelkrim Hamza, USTHB; Benoit Escrig, Universite de Toulouse

45564

21 Optimization of Time Splitting based SWIPT in Battery-Assisted Full Duplex Relays
Kamal Agrawal, IIT Delhi; Shankar Prakriya, Indian Institute of Technology, Delhi

26563

22 Performance Enhancement of OAM-MIMO Using Successive Interference Cancellation
Shuhei Saito, Hirofumi Suganuma, Waseda University; Kayo Ogawa, Japan Women's University; Fumiaki Maehara, Waseda University

53346

23 Precoded-OFDM within GFDM Framework
Ahmad Nimr, Technische Universität Dresden, Germany; Marwa Chafii, ENSEA, ETIS, CNRS; Gerhard Fettweis, TU Dresden

95694

24 Random Access Preamble for High Doppler in Millimeter-Wave Cellular Systems
Mohammed Saquib Khan, Yong Soo Cho, Chung-Ang University

66498

25 Reducing the PAPR of GFDM Systems with Quadratic Programming Filter Design
Zee Ang Sim, Regina Reine Hendranata, Curtin University Malaysia; Zhuquan Zang, Curtin University; Filbert Juwono, Curtin University Malaysia; Dr. Lenin Gopal, Curtin University

52245

26 Unimodular Sequence Design with Good Local Auto- and Cross-Ambiguity Function for MSPSR System
Tianjun Liu, Pingzhi Fan, Zhengchun Zhou, Southwest Jiaotong University; Guan Yong Liang, Nanyang Technological University

3. Spectrum Sharing, Spectrum Management, and Cognitive Radio Papers

78116

1 Whitespace Prediction Using Hidden Markov Model Based Maximum Likelihood Classification
Ahmad Saad, Henning Schepker, Fraunhofer ESK; Barbara Staehle, HTWG Konstanz; Rudi Knorr, Fraunhofer ESK

93566

2 A PBNS Based Detection Algorithm for Cooperative Wideband Spectrum Sensing Using Hard Combining
Kamal Captain, Dhirubhai Ambani institute of information and communication technology

17434

3 Highly Accurate Prediction of Radio Propagation using Model Classifier
Keita Katagiri, Keita Onose, The University of Electro-Communications; Koya Sato, Tokyo University of Science; Kei Inage, Tokyo Metropolitan College of Industrial Technology; Takeo Fujii, The University of Electro-Communications

34041

4 Maximum Achievable Sum Rate in Highly Dynamic Licensed Shared Access
Samuel Olusayo Onidare, Keivan Navaie, Prof Qiang Ni, Lancaster University

28909

5 Multistage Clustering based Automatic Modulation Classification
Lamia M K, National Institute of Technology Karnataka; Lakshmi Narasimhan, IIT Palakkad

82650

6 New Spectrum Bands for HAPS: Sharing with Fixed-Satellite Systems
Calil Bento Queiroz, University of Brasília (UnB); Robson. D. Vieira, Ektrum; Andre Noll Barreto, Barkhausen Institut; Azar Zarrebini, Access Partnership; Edgar Souza, Agostinho Linhares, Anatel

93325

7 Optimization and Learning in Energy Efficient Resource Allocation for Cognitive Radio Networks
Mduduzi Comfort Hlophe, Sunil Maharaj, University of Pretoria

61711

8 Performance Comparison of Channel Sensing and Geolocation Database-based Resource Allocation Techniques for Cognitive Radio Networks
Samoda Gamage, The University of Newcastle; Jamil Khan, The University of Newcastle, Australia; Duy T. Ngo, University of Newcastle

60227

9 Replica Exchange Spatial Adaptive Play for Channel Allocation in Cognitive Radio Networks
Wangdong Deng, Shotaro Kamiya, Koji Yamamoto, Takayuki Nishio, Masahiro Morikura, Kyoto University

59861

10 The Optimal Spectrum Sensing Stopping Rules Considering Power Limitation in Cognitive Radio
Kangjing Peng, Gang Xie, Beijing University of Posts and Telecommunications

4. Multiple Antenna Systems and Cooperative Communications Papers

54431

1 A Power Efficient Fully Digital Beamforming Architecture for mmWave Communications
Oner Orhan, Intel Corporation; Hosein Nikopour, Intel Labs; Junyoung Nam, Intel corporation; Navid Naderializadeh, Shilpa Talwar, Intel Corporation

64949

2 Backhaul Antenna Allocation Scheme in Massive MIMO Cellular Networks
Wen-Hsing Kuo, Chia-How Chen, Yuan Ze University

93462

3 Codebook Based Precoding for Spatial Modulation
Essam Sourour, Prince Sattam Bin Abdul Aziz University

79548

4 Comparison of Explicit CSI Feedback Schemes for 5G New Radio
Rana Ahmed Salem, Keeth Jayasinghe, Thorsten Wild, Nokia Bell Labs

13480

5 Generalized Interference Alignment for Multi-cell Cooperative Transmission over Doubly Selective Channels
Heng Liu, Key Lab of Information Coding and Transmission; Jiayi Lu, Key Lab of Information Coding and Transmission, SWJTU; Li Hao, Southwest Jiaotong University; Zheng Ma, KTH ROYAL INSTITUTE OF TECHNOLOGY?Sweden

52878

6 Joint Subcarrier Pairing and Power Allocation for Achieving Energy-Efficient Decode-and-Forward Relay Networks
Keshav Singh, Meng-Lin Ku, National Central University; Chih-Min, Yu, Yango University

92602

7 On the decoding failure probability of random network coded cooperation
Ioannis Chatzigeorgiou, Lancaster University; Gunes Kurt, Semiha Tedik Basaran, Istanbul Technical University; Amjad Saeed Khan, Loughborough University

39942

8 Parallel Tree Traversals for Soft-Output MIMO Detection Using Multiple Bit Flippings
Tsung-Hsien Liu, Jia-You Wu, Yuan-Sun Chu, National Chung Cheng University

84422

9 Performance Analysis of Aerial Base Station Assisted Cooperative Communication Systems
Xianling Wang, Xiamen University of Technology; Haijun Zhang, University of Science and Technology Beijing; Yue Tian, Xiamen University of Technology; Kyeong Jin Kim, Mitsubishi Electric Research Laboratories

49594

10 Performance Analysis of NOMA-Based Cooperative Relaying Systems Over Hoyt Fading Channels
Stefan Panic, Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University

60835

11 Performance Impact of Nonlinear Amplification in Massive MIMO mmWave Systems
Sara Teodoro, Universidade de Aveiro; Adão Silva, DETI / Instituto de Telecomunicações / University of Aveiro; Rui Dinis, Universidade Nova de Lisboa; Atilio Gameiro, Universidade Aveiro

22210

12 Active Power Splitter Gain and Bandwidth Optimization for a 60GHz Hybrid MIMO System
Steve Blandino, KU Leuven; Abhijeet Kanitkar, Technische Universit¨at Chemnitz, Chemnitz, Germany; Claude Desset, Andre Bourdoux, imec; Sofie Pollin, KU Leuven

72200

13 Capacity Analysis of Asymmetric Multi-Antenna Relay Systems using Free Probability Theory
Lucinda Hadley, Lancaster University; Zhiguo Ding, UMIST; Zhijin Qin, Imperial College UK

87786

14 Channel Estimation for Millimeter Wave Wideband Massive MIMO Systems via Tensor Decomposition
Long Cheng, Guangrong Yue, Xinyu Xiong, Zhiqiang Wang, University of Electronic Science and Technology of China; Shaoqian Li, UESTC, China

21238

15 Combating Transmit Antenna and Channel Correlations in Spatial Modulation Using Signature Constellations
Mustafa Furkan Özkoç, Mutlu Koca, Bogazici University; Hikmet Sari, Nanjing University of Posts and Telecommunications

45656

16 Cooperative NOMA with AF Relaying over Nakagami-m Fading in a D2D Network
Sandeep Joshi, Indian Institute of Technology Delhi; Ranjan Mallik, Indian Institute of Technology - Delhi

26208

17 Design and Experimental Prototyping of Layered Hybrid Decode-Estimate-Forward Relaying
Abeer Ahmed, Lahore University of Management Sciences; Imdad Khan, Lahore; Ahmad Nayyar Hassan, Lahore University of Management Sciences; Jawwad Chattha, LUMS; Momin Ayub Uppal, Lahore University of Management Sciences

40959

18 Efficient Analog Beamforming for Max-Min Fair Multicast Transmission
Zihuan Wang, Hongyu Li, Ming Li, Dalian University of Technology; Wolfgang Kellerer, Technical University of Munich

12947

19 Enhanced Codebook Assisted Tomlinson-Harashima Precoding with Low Feed-forward Overhead
Yuming Yang, Kaili Zheng, University of Electronic Science and Technology of China, UESTC; Yang Song, 5G R&D Center, VIVO Mobile Communication; Yue Xiao, University of Electronic Science and Technology of China; Xiaojuan Zeng, University of Electronic Science and Technology of China, UESTC

22788

20 Iterative Channel and CFO Estimation for SC-FDE and OFDM based Massive MIMO Systems
Zahra Mokhtari, Maryam Sabbaghian, University of Tehran; Thomas Eriksson, Chalmers University of Technology

55260

21 Joint Data and Pilot Power Control Algorithm for Weighted Sum SE in Uplink Single-Cell MU-Massive MIMO systems
Da Zhang, Gang Xie, Jinchun Gao, Beijing University of Posts and Telecommunications

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22 K-Means MU-MIMO User Clustering for Optimized Precoding Performance
Razvan-Florentin Trifan, InfoVista, Politehnica University of Bucharest; Regis Lerbour, Gregory Donnard, Yann Le Helloco, InfoVista

87309

23 Load Modulated Arrays using Channel Modulation with RF Mirrors
Sandeep Bhat, A. Chockalingam, Indian Institute of Science, Bangalore

72059

24 Non-uniform Beam Design for Multi-user MmWave Systems
Fuliang Liu, Wendong Liu, Zhaocheng Wang, Tsinghua University

92154

25 On the Performance of Nth Best Relay Selection Scheme for NOMA-Based Cooperative Relaying Networks With SWIPT
Xinxin Liu, Guangdong University of Technology; Liang Yang, Hunan University; Jianchao Chen, Guangdong University of Technology; Fu-Chun Zheng, Harbin Institute of Technology (Shengzhen) & The University of York

90274

26 Performance of Dual-Hop DF Relay with SSK Modulation and SWIPT over Rayleigh Fading
Hemanta Kumar Sahu, Pravas Ranjan Sahu, Indian Institute of Technology Bhubaneswar

87884

27 Space-Time Coded OTFS Modulation in High-Doppler Channels
Rose Mary Augustine, G. D. Surabhi, A. Chockalingam, Indian Institute of Science, Bangalore

52152

28 Spectral Ef?ciency of Very Large Multiuser MIMO Systems for Time-Selective Fading
Apoorva Chawla, Aditya K. Jagannatham, Indian Institute of Technology Kanpur

40164

29 Uplink Pilot Reuse for Multicell MU-Massive MIMO in Physical Channel Model
Da Zhang, Gang Xie, Jinchun Gao, Beijing University of Posts and Telecommunications

5. Radio Access Technology and Heterogeneous Networks Papers

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1 Coalitional Game Framework for Content Distribution Using Device-to-device Communication
Aditya MVS, Indian Institute of Technology Bombay; Chitrarth Shrivastava, Goldman Sachs; Gaurav S. Kasbekar, Indian Institute of Technology Bombay

31233

2 Coverage Performance in Aerial-Terrestrial HetNets
Mohammad G. Khoshkholgh, UBC; Keivan Navaie, Lancaster University; Halim Yanikomeroglu, Carleton University; Victor C. M. Leung, The University of British Columbia; Kang G. Shin, University of Michigan

35865

3 Cross-Tier Interference Management Scheme for Downlink mMIMIO-NOMA HetNet
Ahmed Nasser, School of Information science, Kyushu University; Osamu Muta, Kyushu University; Maha Elsabrouty, Egypt-Japan University of science and technology

76101

4 Fast Resource Allocation for Downlink NOMA Based on Revenue and Chordal Graphs
Yu-Wen Huang, Shao-Ming Teng, Jung-Chun Kao, Yi-Chia Lo, National Tsing Hua University

90245

5 Field trial on Millimeter Wave Intergrated Access and Backhaul
Tingjian Tian, Huawei Technologies Co., LTD; Yunfu Dou, Huawei; renguangmei, Huawei Tech. Co. Ltd.; Liang Gu, Jingtao Chen, Huawei Technologies Co., LTD; Yang Cui, Huawei Technologies Japan K. K.; Terufumi Takada, Huawei Technologies Japan K.K.; Masashi Iwabuchi, NTT DOCOMO, INC.; Jun Tsuboi, DOCOMO R&D Center, 3-6 Hikarino-oka, Yokosuka-shi, kanagawa, Japan; Yoshihisa Kishiyama, NTT DOCOMO, INC.

80008

6 Hybrid User Association with Proactive Auxiliary Intervention for Multitier Cellular Networks
Antti Anttonen, Aarne Mämmelä, VTT Technical Research Centre of Finland; Tao Chen, VTT Technical Research Centre of Finland Ltd.

68840

7 Inter-Cell Radio Frame Coordination Scheme Based on Sliding Codebook for 5G TDD Systems
Ali Esswie, Nokia Bell Labs; Klaus Pedersen, Nokia

99380

8 Multi-Branch Non-Orthogonal Multiple Access Transmission Scheme For 5G
Chunlin Yan, Yifei Yuan, ZTE Corporation

78227

9 Positioning of Flying Base Stations to Optimize Throughput and Energy Consumption of Mobile Devices
Zdenek Becvar, Pavel Mach, Jan Plachy, Miguel Fontanilla Perez de Tudela, Czech Technical University in Prague

60496

10 Preemption-Aware Rank Offloading Scheduling For Latency Critical Communications in 5G Networks
Ali Esswie, Nokia Bell Labs; Klaus Pedersen, Nokia; Preben Mogensen, Nokia Bell Labs

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11 Rate-Aware Instantly Decodable Network Codes for Heterogeneous Cellular Networks
Abdurrahman Rabih, Abdulrahman Ghandour, Yousef Shnaiwer, Samir Al-Ghadhban, King Fahd University of Petroleum and minerals

40847

12 RSRP-based Handover Skipping for Ultra-dense Networks
Xiping Wu, University of Oxford; Harald Haas, University of Edinburgh

54070

13 Delay-Aware Heuristic-Based Scheduling for 5G Flexible TDD Systems with Beamforming
Anna Lukowa, Venkatkumar Venkatasubramanian, Nokia

65425

14 Efficient Low Complexity Packet Scheduling Algorithm for Mixed URLLC and eMBB Traffic in 5G
Ali Karimidehkordi, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Nurul Huda Mahmood, Aalborg University; Guillermo Pocovi, Nokia Bell Labs; Preben Mogensen, Aalborg University,Nokia Bell Labs

88181

15 Learning-based Beam Training Algorithms for IEEE 802.11ad/ay Networks
Ting-Wei Chang, National Chiao Tung University; Li-Hsiang Shen, National Chiao Tung University (NCTU); Kai-Ten Feng, National Chiao Tung University

53390

16 On the Coordination of Base Stations in Ultra Dense Cellular Networks
Alexios Aravanis, UNIVERSITAT POLITECNICA DE CATALUNYA; Olga Munoz, Antonio Pascual-Iserte, Universitat Politècnica de Catalunya; Marco Di Renzo, CNRS, Centrale Supélec, University of Paris?Sud, France

70352

17 On the Multiplexing of Broadband Traffic and Grant-Free Ultra-Reliable Communication in Uplink
Renato Barbosa Abreu, Thomas Jacobsen, Gilberto Berardinelli, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Nurul Huda Mahmood, Aalborg University; István Z. Kovács, Nokia Bell Labs; Preben Mogensen, Aalborg University,Nokia Bell Labs

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18 QoE-Oriented Admission Control and Resource Allocation for Functional Split Millimeter-Wave Fronthaul Networks
Tun-Ping Huang, Chun-Hao Fang, Pei-Rong Li, Kai-Ten Feng, National Chiao Tung University

92331

19 Seamless Mobility Management in Heterogeneous 5G Networks: A Coordination Approach among Distributed SDN Controllers
Ali Saeed Dayem Alfoudi, Liverpool John Moores University, L3 3AF, UK; S H Shah Newaz, Universiti Teknologi Brunei; Rudy Ramlie, Universiti Teknologi Brunei (UTB), Gadong, Brunei Darussalam.; Gyu Myoung Lee, Liverpool John Moores University; Thar Baker, Liverpool John Moores University, L3 3AF, UK.

6. Green Communications and Networks Papers

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1 Green Communication Protocol with Geolocation
Gautam Srivastava, Brandon University; Robert Bryce, Heartland Software; Andrew Fisher, Brandon University; Jorge Crichigno, University of Southern Carolina

45193

2 More Capacity and Less Power: How 5G NR can Reduce Network Energy Consumption
Richard Tano, Ericsson; Pal Frenger, Ericsson AB, Sweden

77793

3 Chaos-based Delay-Constrained Green Security Communications for Fog-enabled Information-Centric Multimedia Network
Yiwen Zhou, Qili Shen, Shanghai Jiao Tong University; Mianxiong Dong, Muroran Institute of Technology; Kaoru Ota, Muroran Institute of Technology,Japan; Jun Wu, Shanghai Jiao Tong University

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4 Cooperative Relaying with Energy Harvesting: Performance Analysis Using Extreme Value Theory
Zhiwei Liu, Peiran Wu, Sun Yat-sen University; Daniel Benevides da Costa, Federal University of Ceara (UFC); Minghua Xia, Sun Yat-sen University

98988

5 Energy Aware Wireless System based Software Defined Radio
Hanadi Salman, Reem Balatiah, Ahmed Masri, Yousef Dama, An Najah National University

74205

6 Energy-Efficient Subchannel and Power Allocation for HetNets Based on Convolutional Neural Network
Di Xu, Xiaojing Chen, Shanghai University; changhao wu, shanghai University; Shunqing Zhang, shugong xu, shan cao, Shanghai University

87298

7 Optimal Operating Frequency of Inductive Power Transfer through Metal Barriers
Han Zhang, Lianghui Ding, Feng Yang, Liang Qian, Shanghai Jiao Tong University

87456

8 Optimal Transmission Policy for Maximizing Green Energy Utilization in Small Cell Networks
Mohammad Tala't, Li-Hsiang Shen, National Chiao Tung University (NCTU); Chih-Min, Yu, Yango University; Kai-Ten Feng, National Chiao Tung University

38809

9 Outage Performance for Power Beacon-Assisted Wireless-Powered Cooperative Communications
Oussama Messadi, University Putra Malaysia; ADUWATI SALI, Universiti Putra Malaysia; Gaofeng Pan, Southwest University; Zhiguo Ding, UMIST; Nor Kamariah Noordin, Dept. of Computer and Communication Systems Engineering, UPM; S. J. Hashim, Universiti Putra Malaysia

23873

10 Performance of Incremental Relaying with an Energy-Buffer Aided Relay
Dileep Bapatla, Shankar Prakriya, Indian Institute of Technology, Delhi

91840

11 Reliable Communication Performance for Energy Harvesting Wireless Sensor Networks
Van Nhan Vo, Khonkaen University, Thailand; Hung Tran, Elisabeth Uhlemann, Malardalen University; Quach Xuan Truong, VNU University of Engineering and Technology, Vietnam; Chakchai So-In, Khon Kaen University; Ali Balador, Mälardalen University

33509

12 Resource Allocation Strategy Based on RF Energy Harvesting in Heterogeneous Networks
Jincheng Gao, Yisheng Zhao, MengJia Chen, Zhonghui Chen, Fuzhou University

7. IoT, M2M, Sensor Networks, and Ad-Hoc Networking Papers

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1 Analytical Modeling and Design of Energy Efficient Class-Selection for Long Range Wide Area Networks
Wun-Ci Su, Tzu-I Wu, Pei-Rong Li, Kai-Ten Feng, National Chiao Tung University

58223

2 Resource Spreading for Improved Spectral and Energy Efficiency of mmWave D2D-Enabled Cellular Networks
Anup Chaudhari, Siva Ram Murthy Chebiyyam, Indian Institute of Technology Madras

43079

3 Validation of Backscatter Link Budget Simulations with Measurements at 915 MHz and 2.4 GHz
Muhammad Usman Sheikh, Ruifeng Duan, Aalto University; Riku Jäntti, Department of Communications and Networking, Aalto University

81184

4 A New Anti-jamming Strategy Based on Deep Reinforcement Learning for MANET
Yingying Xu, Ming Lei, Min Li, Minjian Zhao, Bing Hu, Zhejiang University

94363

5 A Real-Time Transmission Scheduling Algorithm for Industrial Wireless Sensor Networks with Multiple Radio Interfaces
Huaguang Shi, University of Chinese Academy of Sciences; Meng Zheng, Shenyang Institute of Automation - Chinese Academy of Sciences; Wei Liang, Shenyang Institute of Automation, Chinese Academy of Sciences; Jialin Zhang, University of Chinese Academy of Sciences

92805

6 Characterizing and Estimating Bulk Transfer Size in Mobile Opportunistic Network
Gourish Goudar, Suvadip Batabyal, BITS PILANI HYDERABAD CAMPUS

84767

7 Crowdedness Estimation Using RSSI on Already-deployed Wireless Sensor Networks
Naoya Matsumoto, Osaka University; Jiei Kawasaki, University of Osaka; Makoto Suzuki, Sonas Corporation; Shunsuke Saruwatari, University of Osaka; Takashi Watanabe, Osaka University

40465

8 Performance Evaluation and Optimization of B.A.T.M.A.N. V Routing for Aerial and Ground-based Mobile Ad-hoc Networks
Benjamin Sliwa, Stefan Falten, Christian Wietfeld, TU Dortmund University

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9 Performance Evaluation of Backoff Misbehaviour in IEEE 802.11ah Using Evolutionary Game Theory
Liew Jiun Terng, Fazirulhisyam Hashim, ADUWATI SALI, M. Fadlee A. Rasid, Universiti Putra Malaysia; Kanapathippillai Cumanan, University of York

90991

10 Secure Outdoor Smart Parking using Dual Mode Bluetooth Mesh Networks
Paul Seymer, Duminda Wijesekera, Cing-Dao Kan, George Mason University

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11 Vehicle-to-Cloudlet : Game-Based Computation Demand Response for Mobile Edge Computing through Vehicles
Xi Lin, Jianhua Li, Shanghai Jiao Tong University; Wu Yang, Harbin Engineering University; Jun Wu, Shanghai Jiao Tong University; Zhifeng Zong, Xiaodong Wang, Shanghai Flood Control Information Center

8. Wireless Networks: Protocols, Security, and Services Papers

97926

1 An end-to-end demonstration for 5G network slicing
RUI NI, HUAWEI

12492

2 Experimental Evaluation of Jamming Threat in LoRaWAN
CHIN-YA HUANG, Ching-Wei, National Taiwan University of Science and Technology; Ray-Guang Cheng, NTUST; Shanchieh Jay Yang, Rochester Institute of Technology; Shiann-Tsong Sheu, National Central University

82218

3 Urgency-Aware Scheduling Algorithm for Downlink Cognitive Long Term Evolution-Advanced
Huda Adibah Mohd Ramli, Farah Nadia Mohd Isa, Ani Liza Asnawi, Ahmad Zamani Jusoh, Amelia Wong Azman, International Islamic University Malaysia

87359

4 Adaptive Negotiation for Block Acknowledgment Session Management
ABDELALIM Kaoutar, Orange/IMT Atlantique; REDIETEAB Getachew, DESTOUET ROBLOT Sandrine, Orange; Karine Amis, CNRS, UMR 6285 Lab-STICC, IMT Atlantique

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5 Analysis of Non-Pilot Interference on Link Adaptation and Latency in Cellular Networks
Raghunandan M Rao, Virginia Tech; Vuk Marojevic, Mississippi State University; Jeffrey Reed, Virginia Tech

30781

6 An Energy Efficient Spatio-Temporal Compression Clustering Data Collection Scheme for Wireless Sensor Networks
Lina Xiao, Song Xiao, Yimin Zhao, Xidian University

21990

7 Crossfire Attack Detection using Deep Learning in Software Defined ITS Networks
Akash Raj Narayanadoss, Tram Truong-Huu, Purnima Murali Mohan, Mohan Gurusamy, National University of Singapore

43282

8 Evaluating Indoor Localization Performance on an IEEE 802.11ac Explicit-feedback-based CSI Learning System
Takeru Fukushima, Osaka University; Tomoki Murakami, NTT; Hirantha Abeysekera, NTT Corporation; Shunsuke Saruwatari, University of Osaka; Takashi Watanabe, Osaka University

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9 Fountain Coding Enabled Data Dissemination for Connected and Automated Vehicles
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10 LpMAC: A MAC Protocol based on Valid Prediction of the Next Hop Link in Highly Dynamic Network
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11 Optimal Relay Selection with a Full-duplex Active Eavesdropper in Cooperative Wireless Networks
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12 Secure Communication with Wireless Powered Friendly Jammers under Multiple Eavesdroppers
Dongxuan, He Zhou, Beijing institute of technology; Hua Wang, Dewei Yang, Beijing Institute of Technology

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13 Transfer Learning-Based Received Power Prediction Using RGB-D camera in mmWave Networks
Tomoya Mikuma, Takayuki Nishio, Masahiro Morikura, Koji Yamamoto, Kyoto University; Yusuke Asai, Ryo Miyatake, NTT Network Innovation Laboratories

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14 User Selection and Transceiver Design for Secure Transmission in MIMO Interference Networks
Qiuyi Cao, Nan Zhao, Dalian University of Technology; Guan Gui, Nanjing University of Posts and Telecommunications; Yang Cao, Dalian University of Technology; Shun Zhang, Xidian University; Yunfei Chen, University of Warwick; Hikmet Sari, Nanjing University of Posts and Telecommunications

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4 A Framework for Navigation with LTE Time-Correlated Pseudorange Errors in Multipath Environments
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16 Stable and Safe Automated Driving using 3-D Road Geometric Features
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Mahdi Saki, Mehran Abolhasan, Justin Lipman, University of Technology Sydney

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3 Achieve High Spectral Efficiency for 5G: Multi-User MIMO versus NOMA
Yejian Chen, Bell Labs, Nokia

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4 A Comparison of the V2X CommunicationSystems: ITS-G5 and C-V2X
Valérian Mannoni, Vincent Berg, CEA; Stefania Sesia, Eric Perraud, Renault Software Labs

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5 Adaptive Network-Device Cooperative Diversity for Ultra-Reliable and Low-Latency Wireless Control
Saeed R. Khosravirad, Nokia Bell Labs; harish, viswanathan

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6 A Hybrid Fuzzy Logic-Neural Network Approach For Multi-path Separation Of Underwater Acoustic Signals
Abigail Lee-Leon, Singapore University of Technology and Design (SUTD); Chau YUEN, Singapore University of Technology and Design; Dorien Herremans, Singapore University of Technology and Design (SUTD)

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8 An Experimental Study of C-RAN Fronthaul Workload Characteristics: Protocol Choice and Impact on Network Performance
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9 An Improved Frequency-Hopping System with No-Hit-Zone Hopping Pattern Based on Adaptive Array Receiver for Anti-Interference
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10 A Novel Modulation for IoT: PSK-LoRa
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13 Data Collection Period and Sensor Selection Method for Smart Building Occupancy Prediction
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14 Doppler Frequency Trajectories of the Mechanical Robot Arm and Automated Guided Vehicle in Industrial Scenarios
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Sandip Ghosal, Indian Institute of Technology Kharagpur; Arijit, De; Ajay, Chakrabarty

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19 Energy-Efficient Joint Resource Allocation and User Association for Heterogeneous Wireless Networks with Multi-Homed User Equipments
Guanhua Chai, Weihua Wu, Qinghai Yang, Xidian University; Kyung Sup Kwak, Inha University

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20 Experimental Evaluation of the Long-Range MIMO Outdoor Channel at 2.4 GHz
Felix Wunsch, Douglas Weber, Holger Jäkel, Friedrich K. Jondral, Karlsruhe Institute of Technology

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21 Full-Duplex UAV Relay Positioning for Vehicular Communications with Underlay V2V Links
pouya pourbaba, Manosha Kapuruhamy Badalge, Samad Ali, Nandana Rajatheva, University of Oulu

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22 Gaussian Process Regression for Feedback Reduction in Wireless Multiuser Networks
Samira Homayouni, Stefan Schwarz, Technische Universität (TU) Wien; Markus Rupp, TU Wien

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Ivan Kalinov, Evgenii Safronov, Skolkovo Institute of Science and Technology; Ruslan Agishev, Skoltech; Mikhail Kurenkov, Alexander Petrovskii, Dzmitry Tsetserukou, Skolkovo Institute of Science and Technology

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24 Identifying Multipath Propagation in Vehicular Repeater Deployments by LTE Measurements
Martin Lerch, Philipp Svoboda, Orlando Trindade, TU Wien; Josef Resch, OBB Technische Services GmbH; Vaclav Raida, Markus Rupp, TU Wien

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25 Impact of IQI on Sum Rate of mmWave Massive MU-MIMO Systems with Hybrid Beamforming
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Tina Mirfakhraie, Ramiro Liscano, Yuping He, University of Ontario Institute of Technology

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Rafhael Amorim, Aalborg University; Jeroen Wigard, István Z. Kovács, Nokia Bell Labs; Troels B. Sørensen, Aalborg University; Guillermo Pocovi, Nokia Bell Labs

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28 Low Density Signature based Packet Access with Phase Only Adaptive Precoding
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Nandish P. Kuruvatti, Univ of Kaiserslautern; Hans Schotten, University of Kaiserslautern

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Yixiao Gu, cheng li, Bin Xia, Dingjie XU, Zhiyong Chen, Shanghai Jiao Tong University

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Emil J. Khatib, Aalborg University; Dereje Assefa Wassie, AALBORG UNIVERSITY; Gilberto Berardinelli, Ignacio Rodriguez, Preben Mogensen, Aalborg University

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33 Multi-level Location Privacy Protection Based on Differential Privacy Strategy in VANETs
Qingyuan Li, Hao Wu, Xiang Wu, Lan Dong, Beijing Jiaotong University

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34 One Bit Hybrid Precoding For MmWave Massive MIMO Systems
Talha Mir, Zain Siddiqi, Tsinghua University; Usama Mir, Saudi Electronic University (SEU); Richard MacKenzie, British Telecom; Mo Hao, Tsinghua SEM Advanced ICT Lab, Beijing, China.

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35 One GAMP-based Learning Scheme for the Time-varying Massive MIMO Channels
Yindi Yang, Xidian University; Xiushe Zhang, Research Institute of Navigation Technology; Jianpeng Ma, Shun Zhang, Xidian University

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36 On the Performance of DF Based Dual-Hop Mixed RF/UWOC System
Sanya Anees, Rima Deka, Indian Institute of Information Technology Guwahati

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38 Optimal Collision-free Navigation for Multi-Rotor UAV Swarms in Urban Areas
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41 Performance Comparison of Small Cell and Distributed Antenna Systems for In-Building Mobile Communications
Temitope Alade, University of Worcester; Dr. Qasim Ahmed, University of Huddersfield

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43 Performance of Battery-Based Surveillance Monitor with Wireless Energy Harvesting
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46 Random Caching Based Cooperative Transmission in HetNets in the Presence of Popularity Prediction Errors
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47 Recurrent Neural Network-based Frequency-Domain Channel Prediction for Wideband Communications
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48 Repeatability for Spatiotemporal Throughput Measurements in LTE
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49 Robust Low Density Parity Check Decoding Over Markov Gaussian Channels
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50 Secure Data Offloading Strategy for Connected and Autonomous Vehicles
Andrea Tassi, Ioannis Mavromatis, Robert Piechocki, Andrew Nix, University of Bristol

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51 Selective Redundant MP-QUIC for 5G Mission Critical Wireless Applications
Rasmus Suhr Mogensen, Aalborg University; Troels E. Kolding, Guillermo Pocovi, Mads Lauridsen, Nokia Bell Labs; Christian Markmøller, Tatiana Madsen, Aalborg University

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52 Selective Transmission Strategy for NOMA in Downlink CoMP
Char-Dir Chung, National Taiwan University, Taiwan, R.O.C; Chia-An Ku, National Taiwan University

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53 Shared Secret Key Generation via Carrier Frequency Offsets
Waqas Aman, Aneeqa Ijaz, Muhammad Mahboob Ur Rahman, Information Technology University, Lahore; Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University; Haris Pervaiz, Lancaster University, UK

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54 Spatial Consistency Evaluation Based on Massive SIMO Measurements
Sida Dai, Fraunhofer Heinrich Hertz Institute; Martin Kurras, Fraunhofer Heinrich Hertz Institute (HHI)

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55 System Level Analysis of eMBB and Grant-Free URLLC Multiplexing in Uplink
Renato Barbosa Abreu, Thomas Jacobsen, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Gilberto Berardinelli, Aalborg University; Preben Mogensen, Aalborg University,Nokia Bell Labs

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56 Throughput Analysis for IEEE 802.11 Multi-hop Networks Considering Transmission Rate
Takeshi Kanematsu, Kien Nguyen, Hiroo Sekiya, Chiba University

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57 Towards a Security Architecture for Protecting Connected Vehicles from Malware
Shahrear Iqbal, SecurityCompass; Anwar Haque, University of Western Ontario; Mohammad Zulkernine, Queen's University

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58 Transmit Antenna Selection for Interference Aided Wireless Energy Harvesting in Cache-assisted Cognitive Relay Networks
Ashwini Bharade, Jitendra Otwani, Intel Corporation

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59 Using LoRaWAN Technology To Enhance RemotePower Network Monitoring
Ross McPherson, Craig Hay, James Irvine, University of Strathclyde

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60 Visible Light Positioning Considering Multi-path Reflections
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General Conference

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1 2D- AOA Estimation and Tilt Angle Adaptation for 3D Beamforming Interference Reduction in Massive MIMO
Ehab Ali fitouri sahlli, UKM; Mahamod Ismail, Universiti Kebangsaan Malaysia; Nor Fadzilah Abdullah, Rosdiadee Nordin, Universiti Kebangsaan Malaysia (UKM); Mohammed Balfaqih, South Ural State University (SUSU); M. H. Mazlan, UKM

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2 A comparative study on fractional order models for voltage simulation of lithium ion batteries
XIONG Rui, Jinpeng Tian, Beijing Institute of Technology

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3 A Connectivity Probability Based Cross-Layer Routing Handoff Mechanism in Software Defined VANETs
Yangshui Gao, Tao LUO, Yijun Guo, Xinxin He, Beijing University of Posts and Telecommunications

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4 A D2D Multicast Network Architecture for Vehicular Communications
Shashank Kumar Gupta, University of Newcastle, Australia; Jamil Khan, The University of Newcastle, Australia; Duy T. Ngo, University of Newcastle

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5 Adaptive Modulation and Frame Length Method Based on Moore State Machine in LTE-R Communication System
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6 An Adaptive Information Reconciliation Protocol for Physical-layer Based Secret Key Generation
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7 Analysis of SafeCOP Features in V2I and V2V Communication
Naeem Tahir, Finnish Meteorological Institute (FMI); Kari Mäenpää, Timo Sukuvaara, Finnish Meteorological Institute

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8 Analysis on Time-Variant Air-to-Ground Radio Communication Channel for Rotary-Wing UAVs
Hsin-An Hou, Industrial Technology Research Institute; Li-Chun Wang, National Chiao Tung University

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9 An Empirical Analysis of the Effect of Malicious Users in Decentralised Cognitive Radio Networks
Arun Sivakumaran, University of Pretoria; Attahiru S. Alfa, University of Manitoba; Sunil Maharaj, University of Pretoria

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11 A Social-aware Opportunistic Network Routing Protocol Based on the Node Embeddings
Gang Xie, Nanxu Chen, Beijing University of Posts and Telecommunications

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12 A Virtual Grid Sensing Strategy based on Three Regions of Cognitive Radio System
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13 Binomial Frequency Division Multiplexing:Noble Waveform with Spectral Efficiency and Robustness to Multipath Fading
Do Young Kwak, Myungsup Kim, KAIST

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14 Co-channel multi-signal modulation classification based on Convolution Neural Network
Zhendong Yin, Rui Zhang, Zhilu Wu, Harbin Institute of Technology

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15 Compressive Sensing Algorithms for Multiuser Detection in Uplink Grant Free NOMA Systems
Olutayo O. Oyerinde, University of the Witwatersrand

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16 Construction of Replacement Set in the GC-LDPC Codes Based on BIBDs
zhouwei, beijing jiaotong university; Lei Cheng, Lijun Zhang, Beijing Jiaotong University

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17 Crash Avoidance based Periodic Safety Message Dissemination Protocol for Vehicular Ad hoc Network
Suzi Iryanti Fadilah, Universiti Sains Malaysia; azizul rahman, universiti sains malaysia; Mohd Hadri Hilmi, Universiti Sains Malaysia

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18 Data Exchange with the MQTT Protocol: Dynamic Bridge Approach
Alexandre Schmitt, Florent Carlier, University of Le Mans; Valérie Renault, University of Maine

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19 Deep Q-Network based Adaptive Resource Allocation with User Grouping on ICIC
Chien-Hao Lee, Kuang-Hsun Lin, Hung-Yu Wei, National Taiwan University

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20 DrivMan: Driving Trust Management and Data Sharing in VANETs with Blockchain and Smart Contracts
Uzair Javaid, Muhammad Naveed Aman, Biplab Sikdar, National University of Singapore

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