## **Contents**

Preface	XX
Conference Organization	xxii
1. Wireless Communications and Networking Symposium	
	0
WCN01: Wireless Networks	
An improved Multicarrier Differential CDMA System with Synchronization Errors in HF Channels	1
Leizhen Zhou, Minjian Zhao, Jie Zhong, Yunlong Cai	0
Multi-channel CSMA/CA Based Smart Utility Networks Jiyoung Cha, Hu Jin, Dan Keun Sung	6
Spatial Modulation for Single Carrier Wireless Transmission Systems Bin Zhou, Yue Xiao, Ping Yang, Jin Wang, Shaoqian Li	11
Compressed Sensing for Abnormal Event Detection in Wireless Networks Yu Xia, Zhifeng Zhao, Xiao Wang, honggang Zhang	16
A New Joint Feedback And Scheduling Scheme Based On The Users' Satisfaction Ying Yang, Xiaohui Chen, Weidong Wang	21
WCN02: Spectrum and Resource Allocation	
The Concepts of Hybrid-Carrier Scheme Communication System  Lin Mei, Xuejun Sha, Qinyu Zhang, Naitong Zhang	26
Time Overhead and Fairness in Spectrum Allocation for Cognitive Radio  Yutao Liu, Mengxiong Jiang, Xuezhi Tan	34
Optimal Spectrum Allocation of Primary Users in Light-Handed Cognitive Radio Networks <i>Pengbo Si, Enchang Sun, Yanhua Zhang</i>	39
Improved Subcarrier Allocation in Cooperative OFDMA System Jingning Wang, Xuanli Wu, Xuezhi Tan	45
A Conception on the Terahertz Communication System for Plasma Sheath Penetration Jin Li, Yiming Pi	50
WCN03: Coding and Decoding Technique	
Serially Concatenated Joint Source-Channel Coding for Binary Markov Sources	53
tadashi matsumoto, Xiaobo Zhou, Khoirul Anwar	
A Survey of Error Floor of LDPC Codes Yejun He, Jie Yang, Jiawei Song	61

Low-Complexity Probability Generation Algorithm for Stochastic Decoding of Nonbinary LDPC Codes  Baoming BAI, Guanghua He	65
The Joint Optimization of Digital Fountain Coding in Deep Space Communication Gu Shushi, Zhang Qinyu, Zhou Jie	71
Fusion Side Information Based on Spatio-temporal Correlation in Distributed Multi-view Video Coding <i>Qing Huang, Bin Li, Yumei Wang, Lin Zhang, Yu Liu</i>	76
WCN04: Fractional Fourier Transform and Modulation	
A Novel Parameter Estimation Method of Chirp Signal Based on Fractional Fourier Transform Rong Chen, Yiming Wang	82
Anti-interception Communication System based on Double Layers Weighted- type Fractional Fourier Transform Tao Li, Lin Mei, Xuanli Wu, Xuejun Sha, Naitong Zhang	88
Research on Chirp Interference Suppression based on Fractional Fourier	93
Transform Qiming Zhao, Qinyu Zhang, Naitong Zhang	33
Transmission efficient Modulation Based on Constellation Switching in Wireless Communication  Wei Lu, Desheng Wang, Yingzhuang Liu	98
Initial Performance Evaluation of Spatial Modulation OFDM in LTE-based Systems	102
Ping Yang, Yue Xiao, Bin Zhou, Shaoqian Li	
WCN05: PAPR Reduction in OFDM System	
Performance Analysize of Joint Processing of Sidelobe Suppression and PAPR Reduction in NC-OFDM Systems  Peng Wei, Lilin Dan, Jin Wang, Yue Xiao, Xu He, Shaoqian Li	108
A Low Complexity Peak-to-Average Power Ratio Reduction Method for OFDM	114
Systems	114
Xing Ouyang, Jiyu Jin, Zhisen Wang	
An Exhaustive Entropy Based SLM Method for PAPR Reduction of OFDM Systems  Lei Ning, Zhenyong Wang, Mingchuan Yang, Qing Guo	118
Diversity-Multiplexing Tradeoff Coordinated Block-Diagonalization Precoding	123
Linan Sun, Xuejun Sha, Zhun Ye, Zhongzhao Zhang	125
An Improved SLM Cascade with Iterative TR Method for PAPR Reduction in OFDM System  Dong Hyun Choi, Kyung Hoon Won, Hyung Jin Choi	127
Dong Hyun Choi, Kyung Hoon Won, Hyung-Jin Choi	
WCN06: OFDM/OFDMA System	
Utility-Based Joint Routing and Scheduling in OFDMA Cellular Relay Networks with Traffic Prioritization	132

Jian Liang, Hui Yin, Haokai Chen, Zhongnian Li, Shouyin Liu	
Multi-tier Token Based Scheduling Considering QoS and Revenue in OFDMA System	137
Juejia Zhou, Lan Chen, Jianchi Zhu, Liu Liu, Xiang Yun, xiaoming She	
Time-switched Space-time Coded OFDM over Time-varying Channels <i>Jiyu Jin, Guiyue Jin, Zhisen Wang</i>	143
An Improved Channel Estimation Method for NC-OFDM Systems in Cognitive Radio Context  Jia Min, Gu Mai, Wu Qun	147
A New Carrier Frequency Synchronization Scheme for OFDMA Downlink of WiMAX  Pengcheng Mu, Lichang Xue, Wenjie Wang, Qinye Yin	151
WCN07: OFDM/OFDMA and CDMA System	
A Code Assignment Algorithm for Multi-user/Multi-rate 2-Dimensional Block Spread SC-CDMA <i>Qiyue Yu, Weixiao Meng, Fumiyuki Adachi</i>	156
A Low-Complexity CFO Compensation Scheme for Uplink Interleaved OFDMA Jia Yang, Gang Wu, Xu He, Yue Xiao, Shaoqian Li	161
Instantaneous Channel Fluctuation Based Scheduling for Bursty Traffic in OFDMA System  Jianchi Zhu, Xiaoming She, Lan Chen	166
Multiple Doppler Shifts Compensation and ICI Elimination by Beamforming in High-Mobility OFDM Systems  Ying Zhang, Qinye Yin, Pengcheng Mu, Lin Bai	170
Performance of Hybrid Carrier DS CDMA Communication System Xin Qiu, Xuejun Sha, Lin Mei	176
WCN08: MIMO System	
Channel Capacity Analysis on Cooperative MIMO with Antenna Spatial Correlation and Multi-path Trungtan Nguyen, Weixiao Meng, Hongyu Wang	181
Low Complexity User Scheduling Algorithms for Uplink Multiuser MIMO Systems Liang Li, Ling Qiu, Guo Wei	186
Lower Bound Capacity Based Scheduling in MU-MIMO System Xun Luo, Yang Yang, Zhangcheng Ding, Shu Fang, Shaoqian Li	191
Resource Allocation for MIMO-OFDM Video Transmission Systems Based on Joint Source- Channel Coding Chengwen Zhang, Xin Liu, Xuezhi Tan	196
Upper Capacity Bound and Power Allocation in Polarized Distributed MIMO System Wei Lu, Desheng Wang, Yingzhuang Liu	200

wenus: cognitive Radio Networks II	
Double-Threshold Cooperative Detection for Cognitive Radio Based on Weighing Xin Liu, Chengwen Zhang, Xuezhi Tan	205
Parameters Optimization for Cooperative Sensing in Multi-Channel Cognitive Radio Networks	210
Wei Yang, Huanzhong Li, Dongsong Ban, Wenhua Dou	
Cooperative Spectrum Sensing with Diversity Reception in Cognitive Radios Hongjian SUN, Arumugam Nallanathan, Jing Jiang, Cheng-Xiang Wang	216
Cognitive Radio Adaptation Decision Engine Based on Binary Quantum-Behaved Particle Swarm Optimization	221
zheng zhou, Jing Zhang, Wanxin Gao, Yingjie Ma, Yabin Ye	000
Performance analysis for searching delay of secondary users in Cognitive Radios Sheng Wang, Ye Wang, Qinyu Zhang, Yu Fu	226
WCN10: Wireless Sensor and Cognitive Radio Network	
FPGA Implementation of Two Involutional Block Ciphers Targeted to Wireless Sensor Networks  Cheng Li, Xueying Zhang, Howard Heys	232
PAPR of Hybrid Carrier Scheme based on Weighted-type Fractional Fourier Transform	237
Lin Mei, Xuejun Sha, Naitong Zhang	
An Iterative Multiple Primary Users Localization Algorithm Based on Clustering Xing Zhiqiang, Li Wei, Han Qiang	241
An Improved Fuzzy Unequal Clustering Algorithm for Wireless Sensor Network	245
Song Mao, Chenglin Zhao, Zheng Zhou, Yabin Ye	
PHASE CODED WAVEFORM DESIGN FOR SONAR SENSOR NETWORK Lei Xu, Qilian Liang, Xiaorong Wu, Baoju Zhang	251
WCN11: Positioning	
Intelligent AP Selection for Indoor Positioning in Wireless Local Area Network Zhian Deng, Lin Ma, Yubin Xu	257
Wireless Internet Assisting Satellite Position in Urban Environments  Yiming Pi, Pengda Huang	262
Rapid Deployment of APs in WLAN Indoor Positioning System  Ying He, Weixiao Meng, Lin Ma, Zhian Deng	268
On the Capacity of Finite-State Channels with Noisy State Information at the Encoder  Lin Song Jun Chen	274

Three-State Semi-Markov Channel Model for HAP-High Speed Train Communication Link Ming Li, Mingchuan Yang, Gu Lv, Qing Guo	279
WCN12: Transmission Scheme in LTE	
NACK-based Retransmission Schemes for MBMS over Single Frequency Network in LTE Cheng-Chung Lu, Wen-Ching Chung, Chung-Ju Chang, Fang-Ching Ren	284
Load Balancing between TD-SCDMA and GSM Systems with Asymmetric Services	289
Liang Lei, Aiping Huang, Cunqing Hua, Zhouyun Wu, Jun Qian, Liang Shen, Xinwei Chen, Yusheng Zhang	
Modeling and Analysis of SU-CoMP HARQ in 3GPP LTE System Level Simulation  Yuan Cao, Vi Li, HongYi Yu, Shihai Cao, Vianfong Wang	295
Yuan Gao, Yi Li, HongYi Yu, Shihai Gao, Xianfeng Wang	
A Novel MAC Protocol for Mixed Traffics in LEO Satellite Networks  Mingxiang Guan, Yuchen Wang, Qing Guo	299
Improved Medium Access Control Schemes for TDD-CDMA Multihop Cellular Networks	304
Xiao Fan Wang, Xue Jun Li, Peter Han Joo Chong	
WCN13: Wireless Sensor and Ad Hoc Network	
Modeling and Analysis of Nodal Behavior in Delay Tolerant Wireless Sensor Networks	310
Luqun Li, Xu Li, Xuemin (Sherman) Shen	
An Energy-Efficient Virtual Cluster Aggregation Algorithm in MAC Design for Wireless Sensor Network  Chenguang He, Xuejun Sha	315
	040
A Cooperative Recommendation Trust Model for Ad Hoc Networks  Zuhao Liu, Li Yu, Wei Cheng, Ke Wang	319
Relay Searching for Distributed Space-Time Coding in Decentralized Ad hoc Networks	324
Qiyi Caitian, Yongzhao Li, Xinbo Gao, Chen Chen	
Capacity Analysis of Downlink MRT-SC in Distributed Antenna System Zhun Ye, Linan Sun, Qiyue Yu, Zhongzhao Zhang	330
WCN14: Wireless Sensor and Cross Layer Design	
Energy Cost of Cryptographic Session Key Establishment in a Wireless Sensor Network	335
Cheng Li, Xueying Zhang, Howard Heys	
Advanced Sensor MAC protocol to support applications having different priority levels in Wireless Sensor Networks  Vintu jose Alappat, Nitish Khanna Khanna, Anoop Kumar Krishna	340
An Energy-Computation-Efficient (ECE) Method for Mobile Localization in Sensor Networks Lingwen Zhang, Gang Yang	344

Multi-Node-Cooperative AODV Based on Cross-Layer Liang Ye, Deying Chen, Xuejun Sha	350
Cross-layer Design and Performance Comparison of HARQ Schemes with Imperfect CSI In Cooperative Relay Networks  Lun Tang, Rongrong Zhang, Qianbin Chen, Xiaoping Zeng	356
WCN15: Beamforming Design	
Multi-stage beamforming codebook for 60GHz WPAN Li Chen, Ying Yang, Xiaohui Chen, Weidong Wang	361
Optimal Cooperative Beamforming Design of AF MIMO Two-Way Relay Channels ZIBIN WANG, LINHUA ZHENG, ZHENDONG ZHOU, YONGHUI LI	366
Combination of Interference Alignment and Beamforming in Cellular Networks chao zhou, wei chen, zhi chen	371
Robust Design for Opportunistic Collaborative Beamforming with Noisy Limited Feedback <i>Lei Wang, Zhiyong Wang, Guo Wei</i>	376
Modulation Recognition for Hybrid Carrier Scheme Based on Weighted-type Fractional Fourier Transform  Hong Feng, Lin Mei, Xuejun Sha, Naitong Zhang	381
WCN16: GNSS and Relay Network	
Design of Acquisition Algorithm Based on a Novel Detector for Weak GNSS Signals	384
Yingjie Shen, Minjian Zhao, Jie Zhong, Yunfei Li, Huazi Zhang	
Range Distance Compensation Algorithm for Assisted GNSS Positioning Guanghua Zhang, Weixiao Meng, Jingqiu Ren, Yuwei Shi	390
Real-Time and Fairness Assisted Scheduling in Multiuser Two-Way Relay Network Hui Yin, Jian Liang, Haokai Chen, Zhongnian Li, Shouyin Liu	395
Relay Selection with Noisy Limited Feedback  Lei Wang, Guangrong Zhang, Guo Wei	400
Under-determined Blind Source Separation Based on Sub-band Division Feng Tao, Zhu Lidong	405
WCN17: Long Term Evolution	
An Adaptive Scheduling Algorithm for Conversational Video Services in LTE System <i>Huali Qi, Ling Qiu, Bao Zhang</i>	410
Combined Fast Link Adaptation Algorithm in LTE Systems  Tao Tao, Andreas Czylwik	415
A Lightly-loaded Cell Initiated Load Balancing in LTE Self-Optimizing Networks lin zhang Mengru Zhang Shucong lia Wenyu Li Yu Liu	421
THE COURSE WILLIET OF CHARLES SHOULDING HIG. VVCIIVALID. LA. LA LAU	

Layered Broadcast/Multicast Mechanism for Spectral-Efficient 4G Wireless networks  Jingqing Mei, Hong Ji, Yi Li	426
Routing Timer Self-Adaptive Regulating Algorithm based on MIMD Loop Control for MANET	432
Danyang Qin, Lin Ma, Xuejun Sha, Yubin Xu	
WCN18: WLAN and WPAN	
Application of Multi-Cluster-Center Based Filtering in WLAN Indoor Positioning Limin Li, Lin Ma, Yubin Xu, Jiayin Wang	438
An Improved ER Scheduling Algorithm Based Spatial Reuse Scheme for mmWave WPANs  Weixia Zou, Yucong Hu, Bin Li, Yabin Ye, Zheng Zhou	442
A New Constrained-send Mechanism to Enhance the Performance of IEEE 802.11 DCF	448
Guo Wang, Xiaofeng Zhong, Shunliang Mei, Jing Wang	
An AP Handover Scheme Using Vehicular Wi-Fi Connectivity Jianwei Niu, Bin Dai, Guoping Du, Chao Tong	453
Understanding Link-level Characterization of Long-Distance 802.11g Semi- urban Links Zhibin Dou, Zenghua Zhao, Quan Jin, Gaotao Shi, Lianfang Zhang, Yantai Shu, Maode Ma	459
WCN19: Detection and Estimation	
Minimum Neighbour with Extended Kalman Filter Estimator (MINEK): Performance Evaluation Micheal Drieberg, Fu-Chun Zheng, Rizwan Ahmad	465
Nonquiet Primary User Detection Scheme zheng zhou, Zhaoxia Song, Xuan Sun, Yabin Ye	473
High-resolution TOA estimation for IR-UWB ranging based on low-rate compressed sampling Shaohua Wu, Qinyu Zhang, Haiping Yao, Qiaoling Zhang	478
Timing offset estimation based on novel preamble designs for OFDM system Kanghui Dong, Fang Yang, Lifeng He, Jian Song	484
A Novel ML-Based Frequency Offset Estimator for OFDM Systems Han Jiang, Minjian Zhao, Jie Zhong, Yunlong Cai, Hao Wu	489
WCN20: Delay Tolerant Network	
A General Model for Store-carry-forward Routing Schemes with Multicast in Delay Tolerant Networks Jiajia Liu, Xiaohong Jiang, Hiroki Nishiyama, Nei Kato	494
Optimal Routing Strategy in Throw-box based Delay Tolerant Network  Bo Gu, Xiaoyan Hong	501

An Improved Routing Scheme for Relay Enhanced Cellular Networks zhangchao ma, Yu Sheng, Jianquan Wang	507
On the Linear Fractional Shift Invariant Systems Associated With Fractional Fourier Transform  Jun Shi, Xuejun Sha, Xiaocheng Song, Naitong Zhang Zhang	511
A Downlink and Uplink Collision Mitigation Scheme for Multi-User MIMO-Based WLANs Through Relaying Hu Jin, Jiyoung Cha, Dan Keun Sung	516
WCN21: Cooperative Relay Systems	
On Performance Bounds of Mixed Amplify-and-forward and Decode-and- forward Cooperative Relay Systems Sheng-Qiang Huang, Hsiao-Hwa Chen, Meng-Ying Lee	521
Multiple-Relay Selection Scheme in Amplify-and-Forward Cooperative System weidang lu, xuanli wu, xuejun sha, naitong zhang	528
SER Analysis of Amplify-and-Forward Relay Systems with Beamforming Min Lin, Min Li, Ling Yang, Chun-guo Chang	532
Adaptive Decode-and-Forward Cooperative Diversity with Multiple-antenna Terminals Yuhui Han, Weixiao Meng, Ye Zhang	536
WCN22: Interference Cancellation	
Asymptotic Diversity Order of Single Carrier Cyclic Prefix Systems with Frequency Domain Decision Feedback Equalizers  Hui-Ming Wang, Qinye Yin	541
Frequency-domain Iterative Inter-code Interference Combined with Parallel Interference Cancellation for Cooperative-MIMO Multi-code DS-CDMA Bo Liu, Weixiao Meng, Qiyue Yu, Xi Chen	546
A Novel Fractional Frequency Reuse Structure Based on Interference Avoidance Scheme in Multi-cell LTE Networks Lina Liu, Gang Zhu, Di Wu	551
Simulation of Step Frequency SAR Error compensation  Yiming Pi, Gang Yao, Jin Li	556
Fractional Fourier Domain Communication System:System Structure and Signal Modeling Yonggang Chi, Shengyu Zhang, Jun Shi	560
WCN23: Network Theory	
A Novel Puncturing Scheme for Rate-Compatible Low-Density Parity-Check Codes Honglin Zhao, Xiyuan Chen, Yongkui Ma, Xiangnan Liu	565
Service-aware Proactive Vertical Handoff Algorithm based on Bandwidth Requirement Prediction  Jingqing Mei, Hong Ji, Yi Li	569

Clashes of Femtocells with Limited Number of Location Area Codes Yifei Huang, Jason Leung	574
Capacity Results for a Class of Deterministic Z-interference Channels with Unidirectional Receiver Conferencing  Nan Liu, Deniz Gunduz, Wei Kang	580
Capacity Limits of Bandlimited Gaussian Channels in Fractional Fourier Domain Naitong Zhang, Jun Shi, Xin Ge, Qinyu Zhang	585
WCN24: QoS Guaranteed and Satellite Communication	
An Improved AQM Scheme with Adaptive Reference Queue Threshold Zhenyu Na, Qing Guo	589
QoS Guaranteed Radio Resource Allocation Scheme using Genetic Algorithm for OFDMA  Juejia Zhou, Xiaoming She, Lan Chen, Hiroyuki Otsuka	594
Auxiliary Particle Filter-Based WLAN Indoor Tracking Algorithm  Junyi Han, Lin Ma, Yubin Xu, Zhian Deng	600
Performance Evaluation and Capacity Analysis for IDMA-based Satellite Communication System Hongdan Wang, Gongliang Liu, Xin Ge, Xingpeng Mao	604
Call Admission Control Scheme for IDMA-based Multi-beam Satellite Systems in the Downlink Direction  Xin Ge, Gongliang Liu, Hongdan Wang, Naitong Zhang	609
WCN25: Ad Hoc Networks and MANET	
Multihop Cooperative Communication for Vehicular Ad Hoc Networks  Hangguan Shan, Weihua Zhuang	614
A Service-Oriented Dynamic Trust Vector Model for Ad Hoc Networks Li Yu, Fei Xiong, Wei Cheng, Wei Wang, Hui Li	620
Reseach on Mobile Hidden Station for Weighted Clustering Algorithm in MANET System  Na Zhang, Ningqing Liu, Meng Wu, Weixiao Meng	625
Concatenation-Assisted Symbol-Level Combining Scheme Based on LR for MIMO Systems with ARQ	629
Bin Zheng, Hui Zhao, XIaoping Zhou, Wenbo Wang, Bin Wu	00.4
Research on image transmission equalized by dual-mode blind algorithm Baoju Zhang, Wei Wang, Ruijuan Wang	634
WCN26: Cognitive Radio Networks I	
A Blind Spectrum-Sensing Method Based on Bartlett Decomposition <i>Qi Ding, Weixia Zou, Zheng Zhou, Bin Li, Yabin Ye</i>	639
A Novel Spectrum Handoff Management Scheme based on SVM in Cognitive Radio Networks  Iinghua Guo, Hong Ii, Yi Li, Xi Li	645

Traditional Distributed Power Control Algorithms for Cognitive Radio Network Mohamed Elalem, Lian Zhao	650
Study on the Capacity of Distributed Antenna Network System by using Single Carrier Frequency Domain Adaptive Antenna Array Wei Peng, Fumiyuki Adachi	655
Generalized Sampling Theorem for Bandpass Signals Associated With Fractional Fourier Transform  Jun Shi, Xuejun Sha, Qinyu Zhang, Naitong Zhang	659
WCN27: Vehicle-to-Infrastructure Communication Networks	
A Busy Tone based Medium Access Control Scheme over Vehicle-to- Infrastructure Communication Networks Yuanguo Bi, Lin Cai, Xuemin Shen, Hai Zhao	663
Mobility and QoS oriented 802.11p MAC scheme for Vehicle-to-Infrastructure communications  lin zhang, zi Wang, Yu Liu, Teng Jiang	669
Performance of Broadcast Transmission from Multiple Vehicles in Vehicle-Roadside-Vehicle Relay Network  Kazuya MINATO, Huiting CHENG, Yasushi YAMAO	675
A Novel Hybrid Routing Protocol for Vehicular Ad-hoc Network Van Minh Le, Mingchuan Yang, Qing Guo	680
A Novel Medium Access Control (MAC) Protocol for VANETs Lian Zhao, Khalid Abdel Hafeez, Zaiyi Liao, Bobby Ngok-Wah Ma	685
WCN28: Network Coding and Heterogeneous Networks	
Network coding-aware cache replacement policy in on-demand broadcast environments  Jun Chen	691
Joint Distributed Source and Network Coding for Correlated Information Multicasting Shaoshuai Gao	698
Load Balancing Algorithm with Multi-Service in Heterogeneous Wireless Networks Jin Sun, Wuanli Wu, Xuejun Sha	703
Energy Efficiency Improvements Through Heterogeneous Networks in Diverse Traffic Distribution Scenarios  Sibel Tombaz, Muhammad Usman, Jens Zander	708
An Optimal IASA Load Balancing Scheme in Heterogeneous Wireless Networks Rong Chai, Xiaoyu Dong, Jie Ma, Qianbin Chen	714
A heterogeneous wireless network selection algorithm based on non- cooperative game theory Yang Cui, Yubin Xu, Rongqing Xu, Xuejun Sha	720

## 2. Frontiers on Communications and Networking Symposium

	C
FCN01: Topology Theory	
Network Soft Partition Based on Topological Potential Jianpei Zhang, Hongbo Li, Jing Yang, Jinbo Bai, Yan Chu	725
A New In-domain Interconnected Architecture Based On Tree-based Topology Cheng Yang, Zhenhua Liu, Du Xu	730
Topology Design of Industrial Ethernet Networks Using a Multi-objective Genetic Algorithm <i>Lei Zhang, Mattias Lampe, Zhi Wang</i>	735
Physical-aware Topology Construction and Importance of underlying topological Information in Provider-independent Overlays  Xian Zhang, Chris Phillips	742
Subpattern Complete Two Dimensional Locality Preserving Principal Component Analysis and Its Application to Gait Recognition Xianye Ben, Shi An, Weixiao Meng, Ze Wang	747
FCN02: New Service and Technique on Communication	
A Wavelength Assignment and Traffic Control Scheme in Reservation Slotted OBS Rings  Wen-Shiang Tang, Yao-Ting Hsieh, Chung-Ju Chang, Wen-Ching Chung	753
LMMSE Channel Estimation Algorithm Based On Delay Time-domain Windowing In AF Cooperative Systems Xuanli Wu, Kai Liu, Mingxin Luo, Qinghua Shen	760
Virtual Network Mapping Algorithm for Large-scale Network Environment shunli zhang, Xue-song QIU, Luo-ming MENG	765
A Novel Traffic Analysis Method For PoC over LTE Based on Retrial Calling Model  Lin Ma, Shouming Wei, Wei Qiang	771
Influence of Aberrations of Receiver Antenna on Heterodyne Efficiency in Free-space Optical Communications Based on Heterodyne Detection Qingbo Yang, Liying Tan, Jing Ma	776
FCN03: Computer Network	
Modeling and Analysis of Free Riding in Peer-to-Peer Streaming Systems <i>Qi Liu, Fenglin Qin, Liansheng Ge</i>	780
A Federated Identity Management System with Centralized Trust and Unified Single Sign-On  Jian Jiang, Haixin Duan, Tao Lin, Fenglin Qin, Hong Zhang	785
Community Identification Based on Clustering Coefficient  Jinbo Bai, Hongbo Li, Yan Chu	790
Blind Source Separation Based On Compressed Sensing  Zhenghua Wu, Yi Shen, Qiang Wang, Jie Liu, Bo Li	794

Modeling TCP Performance in Reordering and Lossy Networks wei xu, yinlong xu, xiaohu wu	799
FCN04: Network Mobility	
A Caching Strategy in Mobile Ad Hoc Named Data Network Yuguang Zeng, Xiaoyan Hong	805
Mobility Management Based on HIP-NEMO Qianbin Chen, Haijun Hu, Rong Chai, Tao Dong	810
Planning the Mobility of Routing Ferries for Intermittently Connected Mobile Networks Zhijun Li, Shouxu Jiang	816
A New Improved MAC Scheme: RM-MAC wenbin zhang, xiaozong yang, shaochuan wu	822
Optimal Packet Size Design for Multimedia Transmissions in Cognitive Radio Networks Xin-Lin Huang, Gang Wang, Fei Hu, Sunil Kumar, Ye Zhang	827
FCN05: Network Security and Network Coding	
End-to-End Performance of Network with Coding-Aware chen yanping, huiqiang wang, guangsheng feng, yulong gao	831
Protocol Derivation System for the Needham-Schroeder Family Junwei Zhang, Chao Yang, Jianfeng Ma	836
Statistical Analysis Of Error Patterns in Block Ciphered Crypto-System Qiuhua Yang, Jian Wang, Shuangqing Wei, Jian Yuan	841
Multipath Interference Analysis of IR-UWB Systems in Indoor Office LOS Environment Chao Luo, Xuanli Wu, Yang Cao	846
Partial Template Based Receiver in Impulse Radio Ultra-Wideband Communication Systems  Yang Cao, Chao Luo, Xuanli Wu	851
On Realizing Optical CDMA Signatures Reconfiguration with Composite coded Waveguide Grating  Jen-Fa Huang, Yao-Tang Chang, You-da Dai	855
3. The Internet of Things and Applications Symposium	
	0
IOT01: Internet and Application	
An Efficient Power Allocation Algorithm with Fairness Constraints in Cognitive OFDMA System  Lu Ye, Zhaoyang Zhang, Zhipeng Zhang, Benkang Gong, Lianxiang Wang	859
Cell Coverage Analysis of Existing Network and Advanced Testbed Network Xiaohang Chen, Li Chen, Bin Wang, Xin Zhang, Lijun Zhao, Peng Dong, Jia Kong	864

Compensative Mechanism Based on Steerable Antennas for High Altitude Platform Movement Hui Li, Xin Xu, Mingchuan Yang, Qing Guo	870
Design and Implementation of Cloud-based Performance Testing System for Web Services Zhang Li, Chen hui, Tang Fan, Xiong Ao	875
A Distributed Self-Deployment Method for Coverage Optimization in Mobile Sensor Network Zhiliang Tu, Qiang Wang, Yi Shen	881
4. Implementations and Testbeds Symposium	
	0
IAT01: Improved Schemes in Communication Systems I	
An Efficient Fast Handoff Scheme with Network Mobility in Heterogeneous Networks Baojiang Wu	887
A tractable mechanism for external calibration in non-overlapping camera network	893
qiang wang, Yan Liu	
Performance Evaluation of Channel Coding and Aperture Averaging for the Satellite-To-Ground Optical Communications with APD Receivers Huixi Liao, Qingjun Zhang, Jing Ma, Liying Tan	899
PERFORMANCE ANALYSIS OF MULTIPLE ANTENNA SYSTEMS WITHIN DIFFERENT TECHNIQUES	903
Varsha Rao Bolar, Qilian Liang, Lei Xu, Xiaorong Wu, Baoju Zhang	
High-gain Planar TEM Horn Antenna fed by Balanced Microstrip Line Shu Lin, Xinyue Zhang, Xingqi Zhang, li wei	909
IAT02: Improved Schemes in Communication Systems II	
Asymmetrical Handover Algorithm for Broadcast Services in Broadband Wireless Multimedia Systems Min Wang, Chunyan Feng, Tiankui Zhang	913
The Data Processing Method of FY-3 Meteorological Satellite Xiao Hong Tang, Zhaohui Cheng	918
Analysis and Design of Plasma Monopole Antenna li wei, Jinghui Qiu, Shu Lin, Ying Suo	921
Design of High Sensitivity GPS Signal Acquisition Circuit with New Frequency Domain Search Strategy zou deyue, Wenjing Wang, Shuai Han, Weixiao Meng	925
Multiband Printed Monopole Antenna with Square-Nested Fractal Lina Wang, Shu Lin, li wei	929

5. Special Sessions

## SS01: Cognitive Radio testbeds Fully Reconfigurable Cognitive OFDMA Testbed 933 Lianxiang Wang, Zhaoyang Zhang, Lu Ye, Benkang Gong, Wentao Lou 939 The UESTC Reconfigurable Cognitive Radio Testbed zhaojun he, tian liu, youxi tang, qiang xu, wensheng pan A Novel Design of Cognitive Wireless Networks-Architecture and Testbed 944 Zhiyong Feng, Fenglin Xie, Yiyi Chen, Xun Wang, Xin Chen Interference Sensing using CORAL Cognitive Radio Platforms 949 Rukhsana Ruby, Salim Hanna, John Sydor, Victor Leung A New HF Radio Prototype Based on Dynamic Spectrum Anti-Jamming 955 Concept Yichao Zhu, Ping Wang, Jianxun Lu SS02: Compressive Sensing A Novel Compressed Collaborative Sensing Scheme using LDPC Technique 959 Xuan Sun, Zheng Zhou, Lei Shi, Weixia Zou Compressive Sensing Based Sparse Event Detection in Wireless Sensor 964 Networks Wenjie Yan, qiang wang, Yi Shen Cognitive Radio Ultra-Wideband Channel Allocation Based on Sparse Channel 970 Model Lei Shi, Zheng Zhou, Xuan Sun, Yingjie Ma A Multi-Template Deconvolution Algorithm based on Compressed Sensing for 974 **UWB Channel Modeling** Dejian Li, Zheng Zhou, Bin Li, Weixia Zou 979 Compressive Sensing for Sense-Through-Wall UWB Noise Radar Signal Ji Wu, Qilian Liang, Zheng Zhou, Xiaorong Wu, Baoju Zhang SS03: Wireless Optical Design of Fiber-optic CoMP and Relaying for Smart and Broadband 984 Distribution Networks HIROYUKI OTSUKA, Yukihiro Sakamoto, Akiyuki Nakajima Seamless Handover in Integrated WDM/TDM PON and WiMAX Architecture 989 Shiliang Li, Kejie Lu, Yinlong Xu All-optical VPN in optical OFDMA-based PON for integration of optical and 997 wireless networks (Invited) Chongfu Zhang, Jian Huang ONU Patching for Efficient VoD Service over Integrated Fiber-Wireless (FiWi) 1002 Access Networks Yun Xu, Yan Li Cost-effective Multilayer Network Optimization: A top down decomposition 1008 solution Hongfang Yu, Xiaoning Zhang, Li Wang, Vishal Anand

Network Coding-Based 1+N Protection Scheme in Hybrid Wireless-Optical Broadband Access Networks Shifang Dai, Jin Wang, Xinming Zhang, Shiliang Li	1013
SS04: Hot Topics on Internet of Things	
Layered Fault Management Scheme for End-to-end Transmission in Internet of Things Xi Li, Hong Ji, Yi Li	1021
An IOT System for Environmental Monitoring and Protecting with Heterogeneous Communication Networks zhang le	1026
Road Condition Monitoring Using On-board Threeaxis Accelerometer and GPS Sensor	1032
Kongyang Chen, Mingming Lu, Xiaopeng Fan, Mingming Wei, Jinwu Wu	
SS05: Underwater Communications and Networking	
Improving Aloha via Backoff Tuning in Underwater Sensor Networks  Jun-Hong Cui, Nianmin Yao, Michael Zuba, Zheng Peng	1038
Adaptive Routing in Underwater Delay Tolerant Sensor Networks  Zheng Guo, Zheng Peng, Bing Wang, Jun-Hong Cui, Jie Wu	1044
Single Carrier FDMA over Underwater Acoustic Channels  Xilin Cheng, Fengzhong Qu, Liuqing Yang	1052
Localization and Tracking of Underwater Physical Systems Patrick Carroll, Shengli Zhou, Hao Zhou, Jun-Hong Cui, Peter Willett	1058
6. Workshop on Satellite Communications (SATCOM)	
Study on Orthogonal IGSO Global Communication Satellite Constellation yong jiang, Gengxin Zhang, Sen yang, Guangxia Li, Zhidong Xie	1064
A Concatenated Coded Modulation Scheme and Its Iterative Receiving for Deep Space Communications Gengxin Zhang, Dongming Bian, Jing Hu, Zhidong Xie, Qian Sun	1069
Hybrid-LFM Signal Design and Detection Performance Analysis for Formation Flying Satellite Radar System zong zhulin, Hu Jianhao, Zhu Lidong, Jia Haitao	1074
Generalized MIMO Channel Model and Its Capacity Analysis in Formation Flying Satellite Communication Systems  Zhang Lei, Zhu Dong, Ju Cheng	1079
Application of Residue Number Systems to Bent-Pipe Satellite Communication Systems	1083
Wenhui Yang, Ming Zhao, Xiang Chen, Lianfen Huang, Jing Wang	
An Improved Symbol Timing Error Detector for QPSK Signals  Desheng Shi, Chaoxing Yan, Nan Wu, Hua Wang, Jingming Kuang	1088
Security Architecture for Satellite Services over Cryptographically Heterogeneous Networks Haitham Cruickshank, Yingli Sheng, Martin Moseley, John Ashworth	1093

Performance Analysis of Two-Way Relaying Satellite Mobile Communication Ji Baofeng, Huang Yongming, Wang Haiming, Yang Luxi	1099
Redesigning of IPSec for interworking with Satellite Performance Enhancing Proxies	1104
Haitham Cruickshank, Muhammad Nasir Mumtaz Bhutta, Martin Moseley, John Ashworth	
The Development of Satellite Mobile Communication System  Xuan Feng, Qiang Tan, Zongchuang Liang	1110
Multi-Layer Beam Architecture in Mobile Satellite Communications Fei Yang, Meiyu Huang, Sihai Zhang, Wuyang Zhou	1115
7. Workshop on Network Coding in Wireless Relay Networks (NRN)	
Network Coding with Relay Assistance in Multi-rate Wireless Networks Meng Huang, Gang Feng, Yide Zhang	1120
Efficient Retransmission with Network Coding for Multiple Flows in Wireless Networks  Zhiheng Zhou, Liang Zhou, Feng Gang	1126
A Network Coding Scheme for the Multiple Access Full-Duplex Relay	1132
Networks	1132
Zongyan Li, Mugen Peng, Wenbo Wang	
A Nash Equilibrium based Fair User Pairing Algorithm for the Cooperative Network Coding in Multiple Access Relay Systems Xinqian Xie, Mugen Peng, Zhongyuan Zhao, Xiaodong Ji, Wenbo Wang	1137
Reliable and Energy-Efficient Multicast Based on Network Coding for Wireless Sensor Networks  Xing Wang, Yuanquan Tan, Zhiheng Zhou, Liang Zhou	1142
Adaptive Physical Layer Network Coding Ture Peken, Umit Aygolu	1146
NoC architecture with Local Bus Design for Network Coding  Jianhao Hu	1151
An Upper Bound on Broadcast Subspace Codes Codes Thomas Honold, Yimin Pang	1155
Optimization Based Queue Management for Opportunistic Network Coding Qinglong Liu, Gang Feng	1159
Performance Analysis of Cooperative Transmission in Multiple-Access Relay Networks over Nakagami Fading Channels Chunlei HAN, Jianhua GE, Jing LI, Yang GAO	1165
Using Network Coding to Improve Robustness and Persistence for Data Transmission in Sensor Networks Yang Chen, Gang Feng, Liang Zhou	1170
8. Workshop on Wireless Communications for High Speed Rail (HSRCOM)	
A Novel Video Monitoring System in High-Speed Railway Haoyi Shi, Hao Wu, Hengliang Tang, Shiya Wen	1176

Analysis and Emulation of the Small-Scale Fading Characteristics in the High-Speed Rail Scenarios  Linyi Gao, Zhangdui Zhong, Bo Ai, Lei Xiong, Haoxiang Zhang	1181
Performance Evaluation of Water-filling Capacity in High Speed Railway Scenario	1186
Jinlong Qian, Zhangdui Zhong, Lei Xiong, Binghao Chen	
Modeling and Analysis of Dynamic Spectrum Allocation in High-Speed Railways Liang Chen, Hong Ji, Yi Li, Xi Li	1191
Spring Model-Based Call Admission Control Mechanism for High-Speed Railway Environment <i>Yisheng Zhao, Xi Li, Hong Ji</i>	1196
The Effect of Reference Distance on Path Loss Prediction Based on the Measurements in High-Speed Railway Viaduct Scenarios Ruisi He, Zhangdui Zhong, Bo Ai, Lei Xiong, Jianwen Ding	1201
Hard-in-the-loop Simulation of High-speed Railway Mobile Communication Mingwei Zhu, Zhangdui Zhong, Lei Xiong, Jianwen Ding, Siyu Lin	1206
A Modified Algorithm of Synchronization Signal Detection for LTE Initial Cell Search Yukai Gao, Gang Zhu, Xia Chen, Di Wu, Buri Ban	1211
Study on the Shadow Fading Characteristic in Viaduct Scenario of the High- speed Railway Hong Wei, Zhangdui Zhong, Lei Xiong, Bo Ai, Ruisi He	1216
A Hardware-in-the-loop Simulation Method of the Network Performance of High-speed Railway Mobile Communication System Kaifeng Lin, Zhangdui Zhong, Lei Xiong, Siyu Lin	1221
A Wireless Hybrid Diversity Strategy for Heavy Haul Railway Transportation System Jianfei Cao, Zhangdui Zhong, Xia Chen	1226
9. Workshop on Advances in Data and Information Management (ADIM)	
QoS-aware Service Composition in Multi-Network Environment based on Genetic Algorithm <i>Minghui Li, Kaigui Wu, Lu Liu</i>	1231
A Hash-based Secure Interface on Plain Connection Zhenxing Liu, Harjinder Lallie, Lu Liu, Yongzhao Zhan, Kaigui Wu	1236
Cloud Computing Privacy & Security-Global Issues, Challenges, & Mechanisms Saleem-ullah Lar, Xiaofeng Liao, Syed Ali Abbas	1240
A Dynamic Reliability Maintenance Method for Online Software System Lei Chen, Kaigui Wu, Xiaoyu Yang	1246
Near-optimal Configuration of Service Pool Size in Service Composition	1252