

Contents

Dynamic Spectrum Access/Management and Database

A New Evaluation Criteria for Learning Capability in OSA Context	3
<i>Navikkumar Modi, Christophe Moy, Philippe Mary, and Jacques Palicot</i>	
A Two-Stage Precoding Algorithm for Spectrum Access Systems with Different Priorities of Spectrum Utilization	15
<i>Yiteng Wang, Youping Zhao, Xin Guo, and Chen Sun</i>	
Closed Form Expression of the Saddle Point in Cognitive Radio and Jammer Power Allocation Game	29
<i>Feten Slimeni, Bart Scheers, Vincent Le Nir, Zied Chtourou, and Rabah Attia</i>	
Code-Aware Power Allocation for Irregular LDPC Codes	41
<i>Zeina Mheich and Valentin Savin</i>	
Cooperative Game and Relay Pairing in Cognitive Radio Networks	53
<i>Lifeng Hao, Sixing Yin, and Zhaowei Qu</i>	
Effect of Primary User Traffic on Largest Eigenvalue Based Spectrum Sensing Technique	67
<i>Pawan Dhakal, Shree K. Sharma, Symeon Chatzinotas, Björn Ottersten, and Daniel Riviello</i>	
Energy Efficient Information Sharing in Social Cognitive Radio Networks . . .	79
<i>Anna Vizziello and Riccardo Amadeo</i>	
Fair Channel Sharing by Wi-Fi and LTE-U Networks with Equal Priority . . .	91
<i>Andrey GarnaeV, Shweta Sagari, and Wade Trappe</i>	
Is Bayesian Multi-armed Bandit Algorithm Superior?: Proof-of-Concept for Opportunistic Spectrum Access in Decentralized Networks	104
<i>Sumit J. Darak, Amor Nafkha, Christophe Moy, and Jacques Palicot</i>	
Minimum Separation Distance Calculations for Incumbent Protection in LSA	116
<i>Markku Jokinen, Marko Mäkeläinen, Tuomo Hänninen, Marja Matinmikko, and Miia Mustonen</i>	
Mobile Content Offloading in Database-Assisted White Space Networks	129
<i>Suzan Bayhan, Gopika Preamsankar, Mario Di Francesco, and Jussi Kangasharju</i>	

Neighbours-Aware Proportional Fair Scheduler for Future Wireless Networks	142
<i>Charles Jumaa Katila, Melchiorre Danilo Abrignani, and Roberto Verdone</i>	
Performance Analysis of Dynamic Spectrum Allocation in Multi-Radio Heterogeneous Networks	154
<i>Yongjae Kim, Yonghoon Choi, and Youngnam Han</i>	
Secondary User QoE Enhancement Through Learning Based Predictive Spectrum Access in Cognitive Radio Networks.	166
<i>Anirudh Agarwal, Shivangi Dubey, Ranjan Gangopadhyay, and Soumitra Debnath</i>	
Sensing Based Semi-deterministic Inter-Cell Interference Map in Heterogeneous Networks	179
<i>Fatima Zohra Kaddour, Dimitri Kténas, and Benoît Denis</i>	
Simultaneous Uplink and Downlink Transmission Scheme for Flexible Duplexing.	192
<i>Adrian Kliks and Paweł Kryszkiewicz</i>	
Networking Protocols for Cognitive Radio	
FTA-MAC: Fast Traffic Adaptive Energy Efficient MAC Protocol for Wireless Sensor Networks.	207
<i>Van-Thiep Nguyen, Matthieu Gautier, and Olivier Berder</i>	
Threshold Based Censoring of Cognitive Radios in Rician Fading Channel with Perfect Channel Estimation	220
<i>M. Ranjeeth and S. Anuradha</i>	
Wireless Network Virtualization: Opportunities for Spectrum Sharing in the 3.5 GHz Band	232
<i>Marcela M. Gomez and Martin B.H. Weiss</i>	
Distributed Topology Control with SINR Based Interference for Multihop Wireless Networks	246
<i>Maryam Riaz, Seiamak Vahid, and Klaus Moessner</i>	
PHY and Sensing	
A Comparison of Physical Layers for Low Power Wide Area Networks	261
<i>Yoann Roth, Jean-Baptiste Doré, Laurent Ros, and Vincent Berg</i>	
A Novel Sequential Phase Difference Detection Method for Spectrum Sensing	273
<i>Shaojie Liu, Zhiyong Feng, Yifan Zhang, Sai Huang, and Dazhi Bao</i>	

A Simple Formulation for the Distribution of the Scaled Largest Eigenvalue and Application to Spectrum Sensing	284
<i>Hussein Kobeissi, Youssef Nasser, Amor Nafkha, Oussama Bazzi, and Yves Louët</i>	
Doppler Compensation and Beamforming for High Mobility OFDM Transmissions in Multipath.	294
<i>Kalyana Gopala and Dirk Slock</i>	
Frequency Agile Time Synchronization Procedure for FBMC Waveforms . . .	307
<i>Jean-Baptiste Doré and Vincent Berg</i>	
IEEE 1900.7-2015 PHY Evaluation on TVWS Scenarios.	319
<i>Dominique Noguét and Jean-Baptiste Doré</i>	
LRS- G^2 Based Non-parametric Spectrum Sensing for Cognitive Radio	330
<i>D.K. Patel and Y.N. Trivedi</i>	
On Convergence of a Distributed Cooperative Spectrum Sensing Procedure in Cognitive Radio Networks	342
<i>Natalia Y. Ermolova and Olav Tirkkonen</i>	
Simple and Accurate Closed-Form Approximation of the Standard Condition Number Distribution with Application in Spectrum Sensing.	351
<i>Hussein Kobeissi, Amor Nafkha, Youssef Nasser, Oussama Bazzi, and Yves Louët</i>	
Spectrum Sensing for Full-Duplex Cognitive Radio Systems	363
<i>Abbass Nasser, Ali Mansour, Koffi-Clement Yao, Hussein Charara, and Mohamad Chaitou</i>	
Performance of an Energy Detector with Generalized Selection Combining for Spectrum Sensing	375
<i>Deep Chandra Kandpal, Vaibhav Kumar, Ranjan Gangopadhyay, and Soumitra Debnath</i>	
Modelling and Theory	
Analysis of a Multicarrier Communication System Based on Overcomplete Gabor Frames.	387
<i>Alexandre Marquet, Cyrille Siclet, Damien Roque, and Pierre Siohan</i>	
Efficient Power Allocation Approach for Asynchronous Cognitive Radio Networks with FBMC/OFDM.	400
<i>Juwendo Denis, Mylene Pischella, and Didier Le Ruyet</i>	
Invisible Hands Behind 3.5 GHz Spectrum Sharing.	412
<i>Liu Cui and Martin Weiss</i>	

Aggregate Interference in Random CSMA/CA Networks	424
<i>June Hwang, Jinho Choi, Riku Jäntti, and Seong-Lyun Kim</i>	
Throughput Capacity Analysis of a Random Multi-user Multi-channel Network Modeled as an Occupancy Problem	437
<i>Vincent Savaux, Apostolos Kountouris, Yves Louët, and Christophe Moy</i>	
Understanding Current Background Noise Characteristics: Frequency and Time Domain Measurements of Noise on Multiple Locations	448
<i>Alexandros Palaios, Vanya M. Miteva, Janne Riihijärvi, and Petri Mähönen</i>	
Utilization of Licensed Shared Access Resources in Indoor Small Cells Scenarios	462
<i>Eva Perez, Karl-Josef Friederichs, Andreas Lobinger, Bernhard Wegmann, and Ingo Viering</i>	
When Does Channel-Output Feedback Enlarge the Capacity Region of the Two-User Linear Deterministic Interference Channel?	471
<i>Victor Quintero, Samir M. Perlaza, Iñaki Esnaola, and Jean-Marie Gorce</i>	
Hardware Architecture and Implementation	
A Flexible 5G Receiver Architecture Adapted to VLSI Implementation	487
<i>Vincent Berg and Jean-Baptiste Doré</i>	
Evolutionary Multiobjective Optimization for Digital Predistortion Architectures	498
<i>Lin Li, Amanullah Ghazi, Jani Boutellier, Lauri Anttila, Mikko Valkama, and Shuvra S. Bhattacharyya</i>	
Experimental Study of an Underlay Cognitive Radio System: Model Validation and Demonstration.	511
<i>Hanna Becker, Ankit Kaushik, Shree Krishna Sharma, Symeon Chatzinotas, and Friedrich Jondral</i>	
Flexible In-Band Full-Duplex Transceivers Based on a Modified MIMO RF Architecture	524
<i>Alexandre Debard, Patrick Rosson, David Dassonville, and Vincent Berg</i>	
Large-Signal Analysis and Characterization of a RF SOI-Based Tunable Notch Antenna for LTE in TV White Space Frequency Spectrum	536
<i>Essia Ben Abdallah, Serge Bories, Dominique Nicolas, Alexandre Giry, and Christophe Delaveaud</i>	

On the FPGA-Based Implementation of a Flexible Waveform from a High-Level Description: Application to LTE FFT Case Study 545
Mai-Thanh Tran, Matthieu Gautier, and Emmanuel Casseau

Performance of Fractional Delay Estimation in Joint Estimation Algorithm Dedicated to Digital Tx Leakage Compensation in FDD Transceivers 558
Robin Gerzaguët, Laurent Ros, Fabrice Belvéze, and Jean-Marc Brossier

Predictive Channel Selection for over-the-Air Video Transmission Using Software-Defined Radio Platforms 569
Marko Höyhtyä, Juha Korpi, and Mikko Hiivala

Next Generation of Cognitive Networks

Uplink Traffic in Future Mobile Networks: Pulling the Alarm 583
Jessica Oueis and Emilio Calvanese Strinati

Adaptive Channel Selection among Autonomous Cognitive Radios with Imperfect Private Monitoring. 594
Zaheer Khan and Janne Lehtomäki

An Analysis of WiFi Cochannel Interference at LTE Subcarriers and Its Application for Sensing. 605
Prasanth Karunakaran and Wolfgang Gerstacker

Dynamic Sleep Mode for Minimizing a Femtocell Power Consumption 618
Rémi Bonnefoi, Christophe Moy, and Jacques Palicot

Energy Detection Performance with Massive Arrays for Personal Radars Applications. 630
Francesco Guidi, Anna Guerra, Antonio Clemente, Davide Dardari, and Raffaele D’Errico

Energy Management of Green Small Cells Powered by the Smart Grid 642
Mouhcine Mendil, Antonio De Domenico, Vincent Heiries, Raphaël Caire, and Nouredine Hadj-said

Min-max BER Based Power Control for OFDM-Based Cognitive Cooperative Networks with Imperfect Spectrum Sensing 654
Hangqi Li, Xiaohui Zhao, and Yongjun Xu

TOA Based Localization Under NLOS in Cognitive Radio Network 668
Dazhi Bao, Hao Zhou, Hao Chen, Shaojie Liu, Yifan Zhang, and Zhiyong Feng

Standards, Policies and Business Models

Business Models for Mobile Network Operators Utilizing the Hybrid Use
 Concept of the UHF Broadcasting Spectrum. 683
Seppo Yrjölä, Petri Ahokangas, and Pekka Talmola

Co-primary Spectrum Sharing and Its Impact on MNOs’ Business
 Model Scalability 695
*Petri Ahokangas, Kari Horneman, Marja Matinmikko, Seppo Yrjölä,
 Harri Posti, and Hanna Okkonen*

Spectrum Toolbox Survey: Evolution Towards 5G 703
Michal Szydelko and Marcin Dryjanski

Workshop Papers

A Reconfigurable Dual Band LTE Small Cell RF Front-end/Antenna
 System to Support Carrier Aggregation 717
*Cyril Jouanlanne, Christophe Delaveaud, Yolanda Fernández,
 and Adrián Sánchez*

Energy Efficient Target Coverage in Partially Deployed Software
 Defined Wireless Sensor Network 729
Slavica Tomovic and Igor Radusinovic

SDN for 5G Mobile Networks: NORMA Perspective 741
*Bessem Sayadi, Marco Gramaglia, Vasilis Friderikos, Dirk von Hugo,
 Paul Arnold, Marie-Line Alberi-Morel, Miguel A. Puente,
 Vincenzo Sciancalepore, Ignacio Digon, and Marcos Rates Crippa*

Statistically Sound Experiments with OpenAirInterface Cloud-RAN
 Prototypes: CLEEN 2016. 754
*Niccolò Iardella, Giovanni Stea, Antonio Viridis, Dario Sabella,
 and Antonio Frangioni*

Erratum to: Utilization of Licensed Shared Access Resources in Indoor
 Small Cells Scenarios E1
*Eva Perez, Karl-Josef Friederichs, Andreas Lobinger,
 Bernhard Wegmann, and Ingo Viering*

Author Index 767



<http://www.springer.com/978-3-319-40351-9>

Cognitive Radio Oriented Wireless Networks
11th International Conference, CROWNCOM 2016,
Grenoble, France, May 30 - June 1, 2016, Proceedings
Noguet, D.; Moessner, K.; Palicot, J. (Eds.)
2016, XVIII, 769 p. 340 illus., Softcover
ISBN: 978-3-319-40351-9