SPACOMM 2011

The Third International Conference on Advances in Satellite and Space Communications

April 17-22, 2011

Budapest, Hungary

SPACOMM 2011 Editors

Massimiliano Laddomada, Texas A&M University - Texarkana, USA

Timothy Pham, Jet Propulsion Laboratory / California Institute of Technology, USA
Some format issues inherent in the e-media version may also appear in this print version.
# TABLE OF CONTENTS

## SPACOMM 1: SATELLITE AND SPACE COMMUNICATIONS:

### Antenna Noise Temperature for Low Earth Orbiting Satellite Ground Stations at L and S Band

Shkelzen Cakaj, Bexhet Kamo, Indrit Enesi, Olimpjon Shurdi ........................................ 1

### Adapting DVB-SH System Parameters to Mobile Environments

Sokhenda Sreng, Benoit Escrig, Marie-Laure Boucheret .......................................................... 7

### Concepts and Technologies for a Terabit/s Satellite - Supporting Future Broadband Services via Satellite

Paul Thompson, Barry Evans, Laurent Castenet, Michel Bousquet, Takis Mathiopoulos ............... 12

## SPACOMM 2: SIGNAL PROCESSING IN TELECOMMUNICATIONS:

### Multi-port Power Amplifier Calibration Estimation Technique Based on ICA Algorithm

Zhiwen Zhu, Xinping Huang ........................................................................................................ 20

### On Design of Optimized Low-Density Parity-Check Codes Starting From Random Constructions

Fred Daneshgaran, Massimiliano Laddomada, Marina Mondin ................................................. 24

### End-To-End Communication Model based on DVB-S2’s Low-Density Parity-Check Coding

Iva Bacic, Josko Kresic, Kresimir Malaric .................................................................................. 30

### Identification of Abnormal System Noise Temperature Patterns in Deep Space Network Antennas

Using Neural Network Trained Fuzzy Logic

Thomas Lu, Timothy Pham, Jason Liao ....................................................................................... 35

## SPACOMM 3: SATELLITES AND NANO-SATELLITES:

### Overview of Experimental Module CANDARMA

Sinan Gokgoz, Orhan Sengul, Levent Burak Yalciner, Mustafa Sancay Kirik, Fethi Turk, Ali Bircan ........................................ 41

### Researching a Robust Communication Link for Cubesats: OPTOS, a new Approach

Victor Miguel Aragon, Alvaro Garcia, Ricardo Amaro, Cesar Martinez, Fany Sarmiento ........... 45

### Manufacturing and Testing of Ka-band Communication Payload of COMS

Jin Ho Jo, Moon Hee You, Seong Pal Lee, Jae Hoon Kim ........................................................... 51

### The on Board Software of the Herschel HIFI Instrument

L. Piazzo, A. M. Di Giorgio, F. Nuzzolo, P. Cerulli-Irelli ............................................................ 57

## SPACOMM 4: SATELLITE/SPACE COMMUNICATIONS-BASED APPLICATIONS:

### Public Protection and Disaster Relief by Satellite-based Communications Network

Yong-Min Lee, Bon-Jun Ku, Do-Seob Ahn .................................................................................. 63

### The OFDM Joint Radar-Communication System: An Overview

Yoke Leen Sit, Christian Sturm, Lars Reichardt, Thomas Zwick, Werner Wiesbeck ....................... 69

### Study on CFDP and DTN Architectures for ESA Space Missions

Felix Flentge ................................................................................................................................. 75

### Setting up a Student Satellite Receiving System in the United Arab Emirates

Youssef El-Hajj, Mustafa Harbaji, Lufti Albash, Nidhal Guessoum .......................................... 81

## SPACOMM 5: GEOGRAPHIC INFORMATION AND APPLICATIONS:

### Characterizing Network Architecture for Inter-satellite Communication and Relative Navigation in Precise Formation Flying

Rai Sun, Jian Guo, Eberhard Gill, Daan Maessen ....................................................................... 85

### Hybrid Acquisition of CBOC Galileo Signals under Multiple Correct-window Hypothesis

Elena Simona Lohan, Alexandru Rusu Casandra, Ion Marghescu .............................................. 91
UWB Localization System with TDOA Algorithm Using Experimental Measurements

Abdelmadjid Maali, Abdelaziz Ouldali, Hassane Mimoun, Geneviève Baudoin

Author Index