

MULTIPOS

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Special Session in (not ICL-GNSS but) DASIP 2013 Conference

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Abstract: A special session in Conference on Design and Architectures for Signal and Image Processing in Cagliari, Italy, on October 2013. The session topic was “Modern Localisation Techniques.” The session replaces the planned ICL-GNSS 2013 special session, as the timing was suiting better for this conference.

Disclaimer:

Document Control

Version	Details of Change	Review Owner	Approved	Date

Executive Summary

A special session in Conference on Design and Architectures for Signal and Image Processing in Cagliari, Italy, on October 2013. The session topic was "Modern Localisation Techniques." The session replaces the planned ICL-GNSS 2013 special session, as the timing was suiting better for this conference. The organizers were Jari Nurmi, Francescantonio Della Rosa and Elena-Simona Lohan from TUT. Jari Nurmi chaired the session.

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1. Introduction

This document describes the implementation of a special session on Modern Localisation Techniques organized by MULTI-POS at DASIP 2013, Cagliari, Italy, on October 8-10, 2013 [1].

2. Special Session Implementation

This section describes the details of the special session. The session was proposed to and accepted by the conference steering committee, and the submitted papers were undergoing a regular review process as all the papers submitted to the conference. The organizers were Jari Nurmi, Francescantonio Della Rosa and Elena-Simona Lohan from TUT. Jari Nurmi chaired the session.

2.1 Location and dates

Cagliari, Italy
October 8-10, 2013

2.2 Agenda

The agenda as extracted from the conference program at <http://www.ecsi.org/dasip2013/program>.

Tuesday, October 8

17:00-18:00

Session 4 (Special Session): Modern Localisation Techniques

Chair: Jari Nurmi, Tampere University of Technology

Abstract:

There is a high demand for providing robust and accurate localization solutions, which will be available continuously, regardless of the specific environment, i.e., outdoors and indoors, and which would overcome and complement the drawbacks of the current stand-alone single-frequency satellite-based navigation systems. In this session the authors are addressing innovative signal processing methods and their implementations, in order to improve the state-of-the-art in localization. In particular the papers deal with modeling of inertial sensors based on Micro-Electromechanical Systems (MEMS) for localization purposes, detection of multipath propagation, which often represents the dominant error source in GNSS (Global Navigation Satellite Systems) positioning, and a linear state model for positioning combining PDR (Pedestrian Dead Reckoning) and WLAN signals.

A Linear State Model for PDR+WLAN Positioning

Matti Raitoharju, Henri Nurminen, and Robert Piché
(Tampere University of Technology)

Constrained Non-linear Fitting for Stochastic Modeling of Inertial Sensors

Alex Garcia Quinchia (Universitat Autònoma de Barcelona),
Gianluca, Fabio Dovis
(Politecnico di Torino and Istituto Superiore Mario Boella),
and Carles Ferrer (Universitat Autònoma de Barcelona)

Effects of Colored Noise in Linear Adaptive Filters Applied to GNSS Multipath Detection

Sabrina Ugazio (Istituto Superiore Mario Boella)
and Letizia Lo Presti (Politecnico di Torino)

In the poster session there was also one related paper by the special session organizers and one of the MULTI-POS fellows:

Efficient Bit Decoding Implementation for Mass Market Multi-Constellation GNSS Receivers

Tommi Paakki, Jussi Raasakka, Francescantonio Della Rosa,
and Jari Nurmi (Tampere University of Technology)

3. Participants

The conference participants were actively attending the session. There is no separate participant list available for the sessions. The general participant list of the conference is attached.

4. Conclusions

The first special session by the project was organized successfully by TUT at DASIP 2013 in Cagliari, Italy.

5. References

[1] DASIP conference website <http://www.ecsi.org/dasip2013/>



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