

Track B: Ultra-Wideband Expert Talk

Chair: Dr.-Ing. B. Geck

Design of Compact Logarithmically Periodic Antenna Structures for Polarization-Invariant UWB Communication

O. Klemp, H. Eul
Department of High Frequency Technology and Radio Systems, University of Hannover, Germany

Joint communication, ranging, and positioning in low data-rate UWB networks

L. De Nardis, M. G. Di Benedetto
University of Rome La Sapienza, Rome, Italy

Sensitivity of Aggregate UWB Interference Models

W. Sörgel, M. Baldauf, M. Younis, W. Wiesbeck
IHE, University of Karlsruhe, Germany

Location accuracy of an UWB localization system based on a CMOS-based chip set

M. Tüchler, V. Schwarz, A. Huber
Center for Microelectronics Aargau, University of Applied Sciences of North-west Switzerland

WPNC'05
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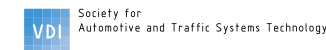


Joint 2nd Workshop on Positioning, Navigation and Communication 2005 (WPNC'05) &

1st Ultra-Wideband Expert Talk 2005 (UET'05)

17th March 2005, right after CeBIT '05

Location: University of Hannover
Information Technology Laboratory
Schneiderberg 32
30167 Hannover, Germany



Mobile position aware systems combined with modern wireless technologies are getting more and more important. When developing systems of this kind, problems in various fields of information and communication technology need to be solved.

The workshop shall give an overview of state-of-the-art approaches and systems. In this context the expert talk will focus on the upcoming ultra-wideband technology.

Chair:

Prof. Dr. techn. Boll

Welcome

Prof. Dr. techn. Boll

Keynote Address

Prof. Dr.-Ing. R. Kraemer

Low cost resolution enhancement in hyperbolic localization

H. Linde, E. Naroska, G. Stromberg
Computer Engineering Institute,
University of Dortmund, Germany
Infineon Technologies, Munich, Germany

Time of arrival estimation for WLAN indoor positioning systems using matrix pencil super resolution algorithm

A. Aassie Ali, A. S. Omar
Chair of Microwave and Communication
Engineering, University of Magdeburg, Germany

Numerical Integration Methods in Local Positioning

N. Sirola, R. Piché, H. Pesonen
Tampere University of Technology, Finland

A signature based localization technique relying on covariance matrices of channel impulse responses

M. Meurer, S. Heilmann, D. Reddy,
T. Weber, P.W. Baier
Research Group for RF Communications,
University of Kaiserslautern, Germany
Indian Institute of Technology Kanpur, India

Position Estimation in Ad hoc Wireless Sensor Networks with Low Complexity

J. Blumenthal, F. Reichenbach, D. Timmermann
Institute of Applied Microelectronics and Computer
Science, University of Rostock, Germany

Chair: H. Scheibner

Suitability of Positioning Techniques for Location-based Services in wireless LANs – U. Rerrer et al.

Low Cost Positioning and Efficient Fallback in GSM and UTRAN Networks – M. Kuipers et al.

Definition and Implementation of Context Information – M. Debes et al.

Performance Study of Positioning Structures for Underwater Sensor Networks – J. E. Garcia et al.

Sensor Application for Museum Guidance – R. Dimitrova

Positioning accuracy of single frequency GPS receivers – B. Belabbas et al.

Analysis and Reduction of Systematic Errors in Wireless LAN Positioning – A. Teuber et al.

Rice Factor Estimation for GNSS Reception Sensitivity Improvement in Multipath Fading Environments – A. Schmid et al.

Ubiquitous Positioning Technologies for Intelligent Navigation Systems – G. Retscher et al.

Spread Spectrum Ultrasonic Positioning System – O. A. M. Aly et al.

Communication Options for Network RTK / SAPOS® Realization – V. Wegener et al.

The land mobile satellite navigation multipath channel - A statistical analyses – A. Lehner et al.

Using the Internet for streaming differential GNSS Data to mobile devices – H. Gebhard et al.

GRIPS Generic Radio based Indoor Positioning System – T. Magedanz et al.

A Hierarchical Architecture for Indoor Positioning System – L. Chou et al.

Track A: Services and Navigation

Chair: Prof. Dr.-Ing. Kyamakya

Model Supported Localization in Cellular Radio Systems

W. Wilhelmi
IBSe GmbH, Berlin, Germany

Context based Navigation by a Dynamic Tour Guide

R. Kramer, M. Modsching, K. ten Hagen
University of Applied Sciences Zittau/Görlitz,
Germany

Efficient Proximity Detection for Location Based Services

G. Treu, A. Küpper
Institute for Informatics, University of Munich,
Germany

Realizing Peer-to-Peer Location-Based Services in Mobile Networks

M. Zündt, G. Deo, M. Naumann, M. Ludwig
Institute of Communication Networks,
Munich University of Technology, Germany
Siemens AG Information and Communication
Mobile, Munich, Germany