

Inertial Sensors and Systems – Symposium Gyro Technology 2012

Programme Committee: W. Bernard (Chairman), W. Auch, W. Geiger, E. von Hinüber, J.-F. Wagner

PROGRAMME

Tuesday, September 18, 2012

08:00 Registration

09:00 Welcome

09:15 ***In Memory of Kurt Magnus:
An Honouring of a Great Scholar of Gyro Technology***
P. C. Müller
(University of Wuppertal, GERMANY)

Session 1: Quartz Vibrating Gyroscopes (CHAIRMAN: W. Bernard)

09:45 ***Improved Performance with Quartz Coriolis Vibrating Gyros***
J. Guérard, B. Maréchal, O. Le Traon
(ONERA, Châtillon, FRANCE)

10:15 ***Towards North Finding with Quartz Gyroscope Technology***
C. Painter, K. Marino
(Systron Donner Inertial, Concord, CA, USA)

10:45 Break

Session 2: Vibrating Shell Gyroscopes (CHAIRMAN: W. Geiger)

11:15 ***Analysis on a Novel Thermal Compensation Structure of the Resonant Fork Accelerometer***
H. Zhuang, W. Wang, Y. Wang
(China Academy of Aerospace Electronics Technology, Beijing, CHINA)

11:45 ***HRG and Inertial Navigation***
D. Roberfroid, Y. Folope, G. Remillieux
(Sagem Défense Sécurité, Paris, FRANCE)

12:15 Lunch Break

Session 3: MEMS Accelerometers (CHAIRMAN: W. Schröder)

14:00 ***High Performance, Low Cost Inertial MEMS: a Market in Motion***
L. Robin, M. Perlmutter
(Yole Developpement, Lyon, FRANCE ; Skylight Navigation Technology, Sherborn, MA, USA)

14:30 ***High Performance Inertial Navigation Grade Sigma-Delta MEMS Accelerometer***
P. Zwahlen¹⁾, Y. Dong¹⁾, A.-M. Nguyen¹⁾, F. Rudolf¹⁾; P. Ullah²⁾, V. Ragot²⁾
(¹⁾Colibrys S.A., Neuchâtel, SWITZERLAND; ²⁾Sagem, Argenteuil, FRANCE)

15:00 ***Inertial Grade Silicon Vibrating Beam Accelerometer***
O. Lefort, S. Jaud, R. Quer, A. Milesi
(Thales Avionics, Valence, FRANCE)

15:30 Break

Session 4: FOG for Space Application (CHAIRMAN: M. Perlmutter)

16:00 ***Radiation Tolerant Optical Fibers for Fiber Optic Gyroscopes***
A. Gillooly, T. Hart
(Fibercore Limited, Hampshire, ENGLAND)

16:30 ***Fiber Optic Gyroscopes for Space Applications, in Orbit Heritage***
S. Ferrand¹⁾, J. Honthaas²⁾, G. Cros²⁾, A. Paveau²⁾; Ph. Guay³⁾
(¹⁾IXBlue, Marly-le-Roi, FRANCE; ²⁾Astrium, Toulouse, FRANCE; ³⁾CNES, Toulouse, FRANCE)

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Wednesday, September 19, 2012

- Session 5: FOG and FOG Components (CHAIRMAN: W. Auch)**
- 09:00 **One Nautical Mile per Month FOG-Based Strapdown Inertial Navigation System: a Dream Already within Reach?**
Y. Paturel, J. Honthaas, H. Lefevre, F. Napolitano
(iXBlue, Marly-le-Roi, FRANCE)
- 09:30 **HiBi Single Polariz[©]HB-Z Zing (TM) Fibers for Fiber Optic Gyroscopes**
J. M. Álvarez, M. Hill, J. Wooler, A. Gillooly
(Fibercore Limited, Hampshire, ENGLAND)
- 10:00 **Closed Loop Fiber Optical Gyroscopes for Commercial and Space Applications**
Y. Korkishko, V. Fedorov, V. Prilutskii, V. Ponomarev, I. Morev, S. Kostritskii, A. Zuev, V. Varnakov
(RPC OPTOLINK, Moscow, RUSSIA)
- 10:30 Break
- Session 6: IMU's in Dynamic Environment (CHAIRMAN: E. von Hinüber)**
- 11:00 **Redundant IMU Borehole Probe for Geological Survey Applications**
M. Perlmutter, A. Pizzarulli
(Civitanavi Systems Ltd., Zug, SWITZERLAND)
- 11:30 **Application of a Procedure for High-Accuracy IMU Calibration with the Use of a Low-Accuracy Turntable to a Rocking Base**
I. Bogatskyi, O. Leonets
(Kiev, UKRAINE)
- 12:00 Lunch Break
- Session 7: Localisation and Surveying (CHAIRMAN: D. Loukianov)**
- 14:00 **Inertial System for Railway Track Diagnostics**
D. Larionov, Y. Filatov, A. Boronachin, L. Podgornaya, E. Bokhman, R. Shalymov
(St. Petersburg State Electrotechnical University "LETI", St. Petersburg, RUSSIA)
- 14:30 **Robustness Improvements and Comparisons of Automotive GPS/INS Navigation Filters in Suburban Scenarios Fusing Automotive on-board Sensors**
M. Wanker¹⁾, M. Popp¹⁾, A. Rauch²⁾, F. Klanner²⁾, G.F. Trommer¹⁾
(¹⁾Institute of Systems Optimization, Karlsruhe, GERMANY; ²⁾BMW Group, München, GERMANY)
- 15:00 Break
- Session 8: Pedestrian Navigation (CHAIRMAN: J.F. Wagner)**
- 15:30 **The High Bandwidth's Measurement and its Influence on the Vibration Characteristic of Fiber-Optic Gyroscopes**
Y.-B. Yang, W. Wang, X. Wang, J. Wang
(Beijing Aerospace Times Optical-Electronic Technology Co. Ltd., Beijing, CHINA)
- 16:00 **Adaptive Indoor Navigation Using Integration of IMU Based Pedestrian Dead Reckoning and RSS Fingerprinting**
W. Chai, C. Chen, E. Edwan, J. Zhang, O. Loffeld
(Center for Sensorsystems, University of Siegen (ZESS), Siegen, GERMANY)
- 16:30 **A System for Pedestrian Indoor Localization with Foot Mounted IMU and Additional Sensors**
M. Romanovas¹⁾, V. Goridko¹⁾, L. Klingbeil²⁾, M. Bourouah¹⁾, A. Al-Jawad¹⁾, M. Trächtler¹⁾, Y. Manoli³⁾
(¹⁾Institute of Microsystems and Information Technology, HSG-IMIT, Villingen-Schwenningen, GERMANY
(²⁾Institute of Geodesy and Geoinformation, University of Bonn, Bonn, GERMANY
(³⁾Fritz Huettinger Chair of Microelectronics, IMTEK, Freiburg, GERMANY)