

Inertial Sensors and Systems – Symposium Gyro Technology 2011

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

PROGRAMME

Tuesday, September 20, 2011

08:00 Registration

09:00 Welcome

Session 1: FOG Design (CHAIRMAN: W. Auch)

09:15 **High Performance FOG for Non Temperature Stabilized Environment**
E. Quatraro, A. Pizzarulli, M. Catasta, G. Crescenti, E. Spinozzi, A. Cingolani
(Gem Elettronica, San Benedetto del Tronto, ITALY)

09:45 **Error Signal Formation in FOGs Through Thermal and Elastooptical Environmental Influences on the Sensing Coil**
F. Schadt, F. Mohr
(Hochschule Pforzheim, Pforzheim, GERMANY)

10:15 Break

Session 2: FOG Components (CHAIRMAN: M. Perlmutter)

11:00 **Research and Development on Photonic Crystal Fiber FOG**
J.W. Wu, X. Zheng, Y.J. Wu, X.K. He
(Beijing Automatic Control Equipment Institute, Beijing, CHINA)

11:30 **Ultra-Low Profile, High Birefringence Fibers for Fiber Optic Gyroscopes**
A. Gillooly
(Fibercore Limited, Southampton, UNITED KINGDOM)

12:00 **Er-Doped Superfluorescent Fiber Source for Inertial-Grade IFOG**
G. Crescenti, A. Pizzarulli, A. Moretti
(Gem Elettronica, San Benedetto del Tronto, ITALY)

12:30 Lunch Break

Session 3: Gyro Concepts (CHAIRMAN: W. Bernard)

14:00 **Methods of Decreasing Readiness Time of Saw-Based Solid-State Gyros**
A. Kukaev, D. Loukianov, Y. Filatov, S. Shevchenko, M. Shevelko, A. Peregodov, D. Safronov
(Saint Petersburg State Electrotechnical University, Saint Petersburg, RUSSIA)

14:30 **The Perspectives of Microwave Gyros**
L.A. Melnikov, P.K. Plotnikov
(State Technical University, Saratov, RUSSIA)

15:00 **Ultra-Long Raman Fiber Laser Gyro**
L.A. Melnikov, S.K. Turitsyn
(State Technical University, Saratov, RUSSIA)
(Aston University, Birmingham, UNITED KINGDOM)

15:30 Break

Session 4: Sensor Calibration (CHAIRMAN: D. Loukianov)

16:00 **Inertial Sensors – A New Approach for Low Cost Calibration and Testing**
Z. Berman
(Berman Consulting and Training Ltd, Moshavat Kinneret, ISRAEL)

16:30 **New Algorithm for Gyro-Stabilization of Pan & Tilt Motion Platform**
B. Vau
(iXMotion S.A.S. Bonneuil-sur-Marne, FRANCE)

17:00-22:30 **Social Event: Sightseeing Tour and Evening Dinner**

Alternate: **Applications of Modeling, Design, Analysis, Simulation, and Evaluation (MDASE) Tools for Far-Target Location (FTL) Systems**
W.T. Thodos, N.G. Mathur, Z.Li, T. Politopoulos
(U.S. Army, Fort Belvoir, USA)

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P R O G R A M M E

Wednesday, September 21, 2011

- Session 5: Miniaturized IMUs (CHAIRMAN: W. Schröder)**
- 09:00 ***MEMS Gyros in Pedestrian Navigation***
U. Meriheinä, O. Kauppinen, P. Kostianen, V. Nurmiainen
(VTI Technologies, Vantaa, FINLAND)
- 09:30 ***Results of Qualification and Initial Prototype Production of a MEMS IMU***
C. Peters, W. Gutmann, M. Hafen, A. Jäckle, J. Kunz, M. Ruf, K. Stumpf, S. Zimmermann, W. Geiger
(Northrop Grumman LITEF GmbH, Freiburg, GERMANY)
- 10:00 ***Milli-HRG Inertial Navigation System***
D. Meyer, D. Rozelle
(Northrop Grumman Navigation Systems Division, Woodland Hills, USA)
- 10:30 Break
- Session 6: Positioning (CHAIRMAN: E. von Hinüber)**
- 11:00 ***Self-Localization for a Mobile Robot in Rough Outdoor Environments***
T. Kopfstedt, A. Beutel, B. Steurer
(Diehl BGT Defence GmbH & Co.KG, Überlingen, GERMANY)
- 11:30 ***Performance Analysis of Tightly Coupled Precise Point Positioning with INS in Urban Areas***
C. Ascher, J. Roth, G-F. Trommer
(Karlsruhe Institute of Technology, Karlsruhe, GERMANY)
- 12:00 Lunch Break
- Session 7: Directional Finding (CHAIRMAN: W. Geiger)**
- 14:00 ***Fiber-Optic Based Inertial North-Finding System***
K. Picklesimer, D. Tazartes
(Northrop Grumman Navigation Systems Division, Woodland Hills, USA)
- 14:30 ***Design of a Transfer Alignment Procedure for Vertical Launch Ground Based Air Defence Missiles***
J. Metzger, T. Löffler
(Diehl BGT Defence GmbH & Co.KG, Überlingen, GERMANY)
- 15:00 Break
- Session 8: Aided Systems (CHAIRMAN: J.F. Wagner)**
- 15:30 ***Design of an Unaided Aircraft Attitude Reference System with Medium Accurate Gyroscopes for Higher Performance Attitude Requirements***
R. Cartarius, P. Kohl, S. Knedlik, E. von Hinüber
(iMAR GmbH, St. Ingbert, GERMANY)
- 16:00 ***Integrated GPS / Inertial Navigation for Aviation***
T. Martin
(Technische Universität Braunschweig, Braunschweig, GERMANY)
- 16:30 ***A Low-Cost Miniature VG for Marine Satellite TV Antennas: Development and Testing***
I. Bogatsky, A. Vaschenko
(Inertial Labs Inc., Sterling, VA, USA)