Tuesday, September 20, 2016

08:00 Registration
09:00 Welcome

Session 1: FOG I  
09:10 Touching the limit of FOG Angular Random Walk: challenges and applications  
Fréderic Guattari, E. Ducloix, E. de Toldi, C. Molucon, J. Honthaas  
(axblue, Saint-Germain-En-Laye, FRANCE)

09:40 µRad Accumulated Angle Error FOG  
Meir Rosilio, Arnon Arbel, L. Koenigsberg, N. Pasternak  
(Al Cielo Inertial Solutions Ltd, Jerusalem, ISRAEL)

10:10 Understanding and control of the magnetic sensitivity of a fiber-optic gyroscope  
de Toldi Elliot, [F. Guattari, C. Molucon], [S. Melin, T. Villedieu], [H. C. Lefèvre]  
(*)Blue SAS, Navigation Systems Business Unit, R&D Gyros, Saint Germain en Laye, FRANCE  
(?)Blue, Photonic Solutions Business Unit, Lannion, FRANCE  
(?)Blue, Saint Germain en Laye, FRANCE

10:40 Coffee Break

Session 2: FOG II  
11:10 20 Years of KVH Fiber Optic Gyro Technology: The Evolution from Large, Low Performance FOGs to Compact, Precise FOGs and FOG-based Inertial Systems  
Jay Napoli, Roger H. Ward  
(KVH Industries, Inc., Guidance & Stabilization Division, Middletown, RI, USA)

11:40 High performance Embedded GNSS INS (EGI) based on FOG sensors technology for Safety Critical Airborne applications  
Roberto Senatori, Andrea Pizarulli, Danilo Durante, Massimo Verola, Mike Perlmutter  
(Civitanavi Systems, Pedaso (FM), ITALY)

12:10 Quality Factor Variation Measured in a Monolithic Fused Silica Cylindrical Resonator  
(College of Optoelectronic Science and Engineering, National University of Defense Technology, Changsha, CHINA)

12:40 Lunch Break (95min)

Session 3: Cylindrical and Hemispherical Resonator Gyros  
14:15 A New Metallic Coriolis Vibratory Gyroscope (CVG) with Multiple-shell Structure  
Xiang Xi, Yulei Wu, Dingbang Xiao, Yongmeng Zhang, Xuezhong Wu  
(College of Mechatronics Engineering and Automation, National University of Defense Technology, Changsha, CHINA)

14:45 Toward Software Defined Coriolis Gyroscopes: Dynamic SelfCalibration of QMG and milli-HRG  
Alexander Trusov, Dough Meyer, [A. Bettadapura, G. H. Mccammon], [M. R. Philips]  
("Northrop Grumman Systems Corporation, Woodland Hills, CA, USA  
(?)Wright-Patterson Air Force Base, Dayton, Ohio, USA)

15:15 Coffee Break

15:45 Primus: SWAP-oriented IMUs for multiple applications  
Alexandre Lenoble, T. Rouilleault  
(Sagem, Eragny sur Oise, FRANCE)

Session 4: Future Trends  
16:15 The Future of the MEMS Inertial Sensor Performance, Design and Manufacturing  
Michael Perlmutter, [Stephen Britt]  
(Civitanavi Navigation Systems, Pedaso (FM), ITALY,  
(?)Coventor, Inc., Cary, NC, USA)

16:45 End Presentations Day 1

19:30 (entrance 19:00) Dinner at the “Festsaal im Studentenhaus” – The ballroom of the University

Alternate:

Space grade fiber optic gyroscope: R&D results and flight tests  
(?)LC RPC Optolink, Moscow / Zelenograd, RUSSIA  
(?)Academician M. F. Reshetnev Information Satellites Systems, Zheleznogorsk / Krasnoyarsk region, RUSSIA
Wednesday, September 21, 2016

Session 5: Gyro Compassing / Northfinding (Chairman: T. Löffler)
09:00
Orbital GyroCompass Evolution
Donald B. Reid
(Lockheed Martin Space Systems, San Jose, CA, USA)

09:30
Advances in Lightweight Precision North Finding and Positioning Inertial Systems
Jason Bias¹, [N. Mathur]¹, [R. Thorpe]²
¹[Night Vision & Electronic Sensors Directorate, Ground Combat Systems Division, Fort Belvoir, VA, USA]
²[Night Vision & Electronic Sensors Directorate, CACI, Fort Belvoir, VA, USA]

Session 6: MEMS (Chairman: G. F. Trommer)
10:00
Closed-loop MEMS accelerometer: from design to production
Boris Grinberg, A. Feingold, L. Koenigsberg
(Physical Logic Ltd., Petah Tikva, ISRAEL)

10:30
Coffee Break

11:00
First results with MEMS tilt sensors on bridges
Stefan König, P. Leinfelder
(Northrop Grumman LITEF GmbH, Dept. EAT, Freiburg, GERMANY)

Session 7: Integrated Systems (Chairman: J. F. Wagner)
11:30
Aerodynamic Parameters Compensation in the SINS/AMM/GNSS Integrated Navigation System
Shen Jieliang, Zhu Xinhua, Wang Yu, Su Yan
(Nanjing University of Science and Technology, School of Mechanical Engineering, Nanjing, CHINA)

12:00
Mixed H₂ / H∞ Filter for Automatic Aircraft Landing with Optical Sensors
Christian Tonhäuser, P. Hecker
(Technische Universität Braunschweig, Institute of Flight Guidance, Braunschweig, GERMANY)

12:30
Lunch Break (90min)

14:00
INS/GNSS/Odometer Data Fusion in Railway Applications
Christian Reimer, F.-J. Müller, E. von Hinüber
(iMAR Navigation GmbH, St. Ingbert, GERMANY)

Session 8: Signal Processing / Algorithms (Chairman: E. v. Hinüber)
14:30
IndoorGuide – A Multi Sensor Pedestrian Navigation System for Precise and Robust Indoor Localization
Jan Ruppelt, Gert F. Trommer
(Institute of Systems Optimization (ITE), Karlsruher Institut für Technologie (KIT), Karlsruhe, GERMANY)

15:00
Coffee Break

15:30
Multiple model concepts in navigational applications
Michael Ger², [M. Westenkirchner, G. Herbold]³, [C. van Ommeren]³
²[MBDA Deutschland GmbH, Schrobenhausen, GERMANY]
³[Technical University of Munich, München, GERMANY]

16:00
An Alternative Approach to Eliminate the Motion Induced Disturbances in Dead Reckoning Navigation
Yakov Binder, Yury Litmanovich, [T. Paderina]
(Concern CSRI Elektropribor, JSC, St. Petersburg, RUSSIA)

Alternate:

Sensor Fusion for Land Vehicle Slope Estimation
Nicola Palella, [L. Colombo, F. Pisoni, G. Avellone]
(STMicroelectronics, Automotive Digital Division, Infotainment BU, Agrate Brianza (MB), ITALY)