

Program Day 1 - Inertial Systems and Applications

DGON ISA 2025

Tuesday, October 21, 2025

8:30 Registration - Welcome Coffee

9:00 Welcome 62th - Conference Chair

Peter Hecker
TU Braunschweig, Germany

9:10 Keynote - Explaining the Lock-in Effect in Vibrating Beam Accelerometers

José Luis Gruver
IAI, Israel

Session 1: MEMS Accelerometers - Chair: Tobias Hiller

9:35 Why and How Bias Depends on Differential Capacitance in MEMS Accelerometers

Ardalan Armin,
Collins Aerospace, UK

10:00 Effect of Resonator Nonlinearity on the Vibration Rectification Error of a Vibrating Beam Accelerometer

Theo Miani
Silicon Microgravity, UK

10:25 Coffee Break

Session 2: MEMS Gyros - Chair: Mark Marshall

10:45 A Closed-Loop MEMS Gyroscope with Optimized Electronics for Achieving sub-2m°/√h Angular Random Walk and sub-4m°/h Bias Instability

Maximilian Marx
LITEF, Germany

11:10 Motionless Non-Orthogonality Identification of MEMS Gyroscopes Across Bending Stress

Wolfram Meyer
Bosch & HSG & U. Stuttgart, Germany

11:35 Balancing of a Coriolis Vibratory Gyroscope Resonator by the Standing Wave Rotation

Hryhorii Strokach,
Igor Sikorsky, *Ukraine*

12:00 Lunch

Session 3: Fiber Optic Gyroscope Technology - Chair: José-Luis Gruver

13:00 Enhanced Wavelength Stability in ASE Light Sources for Strategic-Grade Fiber Optic Gyroscopes Using Advanced Termination and Filtering Techniques

Erkut Emin Akbaş
Nanotam, Turkey

13:25 Identification and Compensation for Actuation Nonlinearity for Whole-Angle Hemispherical Resonator Gyroscopes

Pengbo Xiao
NUofDT, Changsha, China

13:50 Poster Session - Chair: Jörg Wagner

14:20 Coffee Break

Session 4: Fiber Optic Gyroscope - Chair: Andreas Fischer

14:50 Twentieth Century FOG: Revisiting the SOFIA Gyroscopes after 25 years

Benjamin Greiner
Exail & U. Stuttgart, Germany

15:15 Astrix Fiber Gyros Radiation-Induced Attenuation Flight data and Ultra-low Dose Rate On-ground Test Comparison

Hugo Boiron
Exail & Airbus & Unis.

Program Day 2 - Inertial Systems and Applications

DGON ISA 2025

Wednesday, October 22, 2025

9:00 **Welcome Coffee**

9:30	Keynote - History - Crossroads of Inertial Navigation Computation across Six Decades	Yuanxin Wu <i>Shanghai JT University, China</i>
------	--	--

Session 5: Hybrid Systems - Chair: Edgar von Hinüber

9:55	A Novel IMU-Array Designed for MEMS-Gyrocompassing	Jörg Wagner <i>Universität Stuttgart, Germany</i>
------	--	--

10:20	GNSS Jammer Direction Finding in Dynamic Scenarios Using an Inertial-based Multi-Antenna System	Felix Ott <i>FhG & Diehl, Germany</i>
-------	---	--

10:45 **Coffee**

Session 6: Aiding Methods - Chair: Lorenz Schmitt

11:10	Polarization-Constrained Orientation for Low-Cost MEMS INS: A Cross-Pair Vector Constraint Approach	Minghui Zou, <i>NUofDT, Changsha, China</i>
-------	---	--

11:35	Daylight Star Tracker for Satellite-independent Alternative Navigation	Uwe Schmidt, <i>Jena-Optronik, Germany</i>
-------	--	---

12:00	Tight Integration of INS and UWB Measurements	Dominik Hanke <i>TU Braunschweig, Germany</i>
-------	---	--

12:25 **Lunch**

Session 7: Calibration & Modeling - Chair: Uwe Herberth

13:25	Calibration Method of MIMU Two-Axis Turntable Considering G-Sensitivity Error	Peiru Lyu, <i>NPU, Xi'an, China</i>
-------	---	--

13:50	AI-Aided Inertial Sensor	Zeev Yampolsky <i>University of Haifa, Israel</i>
-------	--------------------------	--

14:15	Magnetic Field Compensation For Magnetically Unshielded RLG-INS in Vector Geomagnetic Sensing Systems	Xudong Yu, <i>NUofDT, Changsha, China</i>
-------	---	--

14:40 **Coffee**

Session 8: System Performance- Chair: Yuanxin Wu

15:00	Performance Evaluation of MEMS-based pure inertial Navigation for Ground Vehicles	Ingo Bezold, <i>iMAR Navigation, Germany</i>
-------	---	---

15:25	Accuracy of the Playermaker 2.0 IMU in Tracking Running Distance at Varying Speeds in Elite Youth Soccer	Marcus Schmidt, <i>TU Dortmund, Germany</i>
-------	--	--

15:50	Closing & Announcement of next DGON Inertial Systems and Applications 2026	Peter Hecker <i>TU Braunschweig, Germany</i>
-------	---	--

16:00 **End of Conference**

Information - Postersession

Postersession 13:50 Tuesday, October 21, 2025

1.	Inertial-based Autonomous Navigation and Gravity Measurement System assisted by LDV	Chunfeng Gao <i>NUofDT, Changsha, China</i>
2.	UUT Mounting Fixture and its potential influence on the calibration results of the UUTs	Sergej Haufler <i>Accutronic, Switzerland</i>
3.	A Multi-Stage Matching-Based Inertial/Geomagnetic Integrated Navigation Algorithm for UAVs in GNSS-Denied Environments	Yonghang Cheng <i>NUofDT, Changsha, China</i>
4.	Event-Based Kalman Filtering for Energy Efficient Inertial Sensing	Philipp Kersten <i>Brandenburg U., Germany</i>
5.	Observation and Analysis of Air Damping in Hemispherical Resonator Gyroscopes with Q Factor Exceeding 40 Million	Yiming Luo <i>NUofDT, Changsha, China</i>

