

# „Symposium Gyro Technology 2009“ at Karlsruhe, Germany

22. - 23. September 2009

Conference Report by Prof. Dr.-Ing. Gert F. Trommer, Symposium Chairman

For the third time the “Symposium Gyro Technology – Inertial Components and Integrated Systems” took place at Karlsruhe, organized by the “Institute of Systems Optimization (ITE)” of the University of Karlsruhe in cooperation with the “German Institute of Navigation (DGON)”.



Here experts of the international navigation community discussed latest ideas and recent progress in the field of inertial sensors and multi sensor navigation systems. The papers presented here covered a wide range of inertial systems applications from aerospace platforms and automotive localization systems up to indoor pedestrian navigation.

Again the programme committee, Dr. W. Bernard (Chairman), Dr. W. Auch, Dr. W. Geiger, Prof. Dr. B. Stieler and Dr. E. von Hinüber selected a set of high level papers, presented by 21 speakers out of 8 countries

in the following technical sessions:

## SESSION

- MEMS Gyro Technology
- Quartz - Based Vibrating Gyroscopes
- Test and Characterisation of Inertial Sensors
- MEMS Inertial Sensors in Unmanned Vehicles
- Pedestrian and Indoor Navigation
- FOG - Based Stabilisation and Guidance
- Aided Inertial Sensors
- Urban Car Navigation and Crash Testing
- Performance Evaluation and Market Analysis

## CHAIRMAN

Dr. W. Geiger  
Dr. W. Bernard  
Prof. D. Loukianov  
Prof. B. Stieler  
Prof. W. Schröder  
Dr. W. Auch  
Prof. J. Wagner  
Dr. E. von Hinüber  
M. Perlmutter



The presence of 180 participants from 23 different countries all over the world (covering appr. 60% visitors from abroad) demonstrated the international significance of this conference within the inertial technology community. So this year we could welcome guests coming from Austria, Brazil, Canada, Czech Republic, Denmark, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, P. R. China, Poland, Russia, South Africa, Sweden, Switzerland, Taiwan, Turkey, United Kingdom and USA.

The success of the conference was a result from the high quality of the presentations, but also from the special ambience of the Karlsruhe palace, where the conference was located, promoting deeper relationships between representatives from industry and research centres.

A special highlight was a live experimental demonstration of an Indoor-Pedestrian Navigation System, developed at the ITE, which allows to determine the user's position as well as to form a map of the unknown interior of a building by a SLAM algorithm. The demonstrated indoor navigation system consisted of a navigation filter, fusing the data of a MEMS IMU, a magnetometer and a barometric altimeter with the range measurements of a rotating laser range finder. This research topic of the ITE shall help to close a still open gap for precise indoor navigation, serving as a aiding tool for blind persons, assistance for rescue personnel as well as location and guidance of security forces.

The evening programme, combining a sight seeing tour through the city of Baden-Baden and its famous casino with a dinner at a local micro brewery restaurant, sponsored by ACUTRONIC, Switzerland, provided a lot of opportunities for the participants of sometimes competing companies to come closer to each other.

Many thanks to all of the programme committee, to the staff of the ITE for their technical and logistic support and especially to Mrs. Frietsch and Mrs. Endres, who succeeded perfectly to organize this event.

The next "Symposium Gyro Technology" will be Karlsruhe again at 21 – 22 September 2010. Each one of the inertial technology community will find a warm welcome here next year.

Information as well as a photo gallery can be found at our website

[www.ite.uni-karlsruhe.de](http://www.ite.uni-karlsruhe.de) ,

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