

CC UPOB e. V.  
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Germany



Kompetenzzentrum  
Ultrapräzise  
Oberflächen-  
bearbeitung e.V.

## Background - Joint Investigation

### Joint Investigation

Two selected aspheres were investigated by a number of companies and institutions. The following institutions are participating with the aim of comparing the measurement results. Several participants will present their results during the workshop.



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## Organizational details

Date: **November 13<sup>th</sup>, 2012; Start at 8.30**  
Language: English

Registration: Please register by letter or fax using the attached form. Following this you will receive a confirmation.  
Registration deadline: **November 2<sup>nd</sup>, 2012**

Attendance fee: Lecturers: € 75 (1<sup>st</sup> person)  
Members: € 75  
Non-members: € 185  
Please pay the fee in advance after receiving the invoice.

Accommodation: Recommended accommodation [www.upob.de/](http://www.upob.de/) → Veranstaltungen  
Participants are kindly requested to book their room before October 26<sup>th</sup>, 2012

Get2gether: November 12<sup>th</sup>, 2012; Start at 19.00  
**Restaurant „Al Duomo“**  
Ruhfäutchenplatz 1  
38100 Braunschweig  
Phone: +49 531 1200 - 490

Location: PTB-Braunschweig;  
[www.upob.de/](http://www.upob.de/) → Kontakt

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[www.upob.de](http://www.upob.de)

## Workshop

November 13<sup>th</sup>, 2012

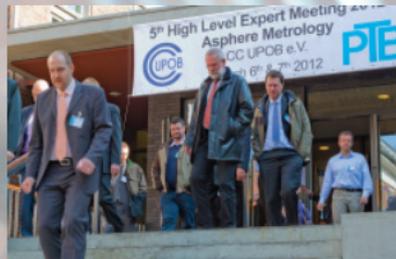


### 8<sup>th</sup> Workshop

“Asphere Metrology on  
Joint Investigations”



2012  
**Workshop**



## 8<sup>th</sup> Workshop 2012

## Agenda

## Agenda

Please fax your registration to: +49 531-592-69 5131

Faster, more reliable, more precise, more flexible - these are the trends in the VDI/VDE roadmap production metrology 2020. They can also be transferred to the development of many components of technical optics. However, their performance often cannot be measured directly, but only by the characterization of their surfaces. The more precise for example aspherical surfaces are measured, the more possible it is "to reach for the stars". Only by precise measurement, the smallest objects can be mapped without distortion, reviewed or produced.

Due to the different shapes of the surfaces and the high uncertainties asphere metrology currently has still great potential for development. Whether tactile, optical tactile, by interferometry or by deflectometry, all methods have their advantages and disadvantages.

Against this background many international experts and institutions participated in comparative measurements of two selected aspheres to demonstrate the potential of their methods and systems. During our upcoming workshop some of the participants, who have so far not had the opportunity to do so will present their results, procedures and systems.

The great feedback of the international players at recent UPOB events places the planned comparison of the results and methods on a broad basis. For the first time results coming from different methods and measurement systems are juxtaposed. Thus it will be shown which are the similarities of the methods and which parameters may be relevant for a calibrated reference asphere.

### November 13<sup>th</sup>, 2012 at PTB, Braunschweig,

Germany's National Metrology Institute

#### Monday, November 12<sup>th</sup> / Evening

■ 19.00 Get2gether; Restaurant „Al Duomo“

#### Tuesday, November 13<sup>th</sup>

- 8.30 Opening and Overview;  
Prof. Dr. F. Löffler; CC UPOB e.V.; Germany
- Status of the EMRP Project IND10 with Regard to Asphere Metrology;  
Dr. M. Schulz; PTB; Germany
- Asphere Measurement Results and Embedding of the NANOMEFOS within Instrument Development at TNO;  
C. van Druenen; TNO Technical Science; Netherlands
- Tactile-Optical Measurements of Aspherical Surfaces;  
B. Hopp; Werth Messtechnik GmbH; Germany
- Asphere Surface Reconstruction by Transmissive Wavfront Measurement;  
Prof. Dr. T. Henning; FH Bremen, Institut i3m; Germany
- Metrology at Technologie Campus Teisnach;  
Prof. Dr. E. Hofbauer; HDU Deggendorf; Germany

#### Programme Committee

Prof. Dr.-Ing. Frank Löffler; UPOB e.V.  
Dipl.-Ing. Gunter Schneider; Schneider GmbH + Co. KG  
Dipl.-Phys. Jean-Michel Astour; Dioptric GmbH  
Prof. Dr.-Ing. Ekkard Brinksmeier; University of Bremen LFM  
Dr. Hans Lauth; Fresnel Optics GmbH  
Dr. Rudolf Meeß; UPOB e.V.  
Dr. Michael Schulz; PTB

- 3D Tactile Scanning on Aspheric Lenses;  
Dr. A. Beutler; Mahr GmbH; Germany
- Analysis of Systematic Errors and their Compensation in CGH-Based Asphere Testing;  
S. Stürwald; Fraunhofer IPT; Germany
- Specular Freeform Surfaces Measured by Deflectometry II;  
E. Olesch; University of Erlangen-Nuremberg; Germany
- Interferometric Measurements on the D46 Asphere: Results;  
Dr. K. Mantel; Max Planck Institute for the Science of Light; Germany
- Non-Contact Asphere Metrology at TRIOPTICS;  
C. Daske; TRIOPTICS GmbH; Germany
- Repeatability HLEM Ashperes with Isara 400;  
Ir. I. Widdershoven & Dr. Ir. H. A. M. Spaan;  
IBS Precision Engineering BV; Netherlands
- ESDI's SNI Measurement Results;  
D. A. Pearson II.; ESDI; USA
- Comparison of Measurement Results;  
Dr. S. Quabis; PTB; Germany
- Necessary Properties of Standard Aspheres;  
Dr. M. Schulz; PTB; Germany
- Final Discussion / Outlook;
- Summary;  
Prof. Dr. F. Löffler; CC UPOB e.V.; Germany
- 16.30 Conference Closing

In the lectures the manufacturers will present their measurement procedures and the results of their investigations of the test aspheres. Following there will be a chance for discussions. Before the start of the meeting, we will send you the final agenda and also publish it on: [www.upob.de](http://www.upob.de)

Attendance may be cancelled by the participant up to 14 days before the meeting starts at 50 % of the attendance fees. Following that date or if the participant does not attend the meeting, we will charge the full amount. Cancellations must be made in writing. We would be glad to accept another participant as attendance fees are transferable.

- I am interested in this meeting. Please send me more information
- I hereby register for Workshop - Asphere Metrology
- Yes I will attend the Get2gether on November 12<sup>th</sup> evening

Firm, Institution:

Title, Family Name, :  
First Name

Address:

Postal Code, City:

Tel., Fax:

E-Mail:

Signature: