Background - 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.

Organizational details

Date: November 13th, 2012; Start at 8.30
Language: English
Registration:
Registration deadline: November 2nd, 2012
Attendance fee:
- Lecturers: € 75 (1st person)
- Members: € 75
- Non-members: € 185
Please pay the fee in advance after receiving the invoice.

Accommodation:
Recommended accommodation
www.upob.de/Veranstaltungen
Participants are kindly requested to book their room before October 26th, 2012

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

Location:
PTB-Braunschweig
www.upob.de/Kontakt

Contact:
CC UPOB e. V. c/o PTB
Heiko Klawitter
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38116 Braunschweig
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info@upob.de; www.upob.de

Workshop

November 13th, 2012

8th Workshop
“Asphere Metrology on Joint Investigations”
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 participate 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.

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**November 13th, 2012 at PTB, Braunschweig, Germany's National Metrology Institute**

**Monday, November 12th, Evening**

19:00 Get2gether, Restaurant "Al Duomo"

**Tuesday, November 13th**

8.30 Opening and Overview;
Prof. Dr. F. Löffler; CC UPOB e.V.; Germany

Status of the EMRP Project IND10 with regard to AsphereMetrology;
Dr. M. Schulz; PTB; Germany

Asphere Measurement Results and Embedding of the
NANOMEOS within Instrument Development at TNO;
C. van Drunen, TNO Technical Science; Netherlands

Tactile-Optical Measurements of Aspherical Surfaces;
B. Hopp, Werth Messtechnik GmbH; Germany

Asphere Surface Reconstruction by Transmissive Waverfront Measurement;
Prof. Dr. T. Henning, FH Bremen, Institut i3m; Germany

Metrology at Technologie Campus Teisnach;
Prof. Dr. E. Höffler, HDU Deggendorf; Germany

**Programme Committee**

Prof. Dr.-Ing. Frank Löffler; UPCO e.V.
Dipl.-Ing. Günter Schneider; Schneider GmbH + Co. KG
Dipl.-Phys. Jean-Michel Audorf; Diopptic GmbH
Prof. Dr.-Ing. Eckhard Brinkmeier; University of Bremen UFM
Dr. Hans Lauth; Fresnel Optics GmbH
Dr. Rudolf Meß; UPCO e.V.
Dr. Michael Schulz; PTB

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**Agenda**

- **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 IPI; Germany
- **Specular Freeform Surfaces Measured by Deflectometry II**;
  E. Clesch; University of Erlangen-Nuremberg; Germany
- **Interferometric Measurements on the D46 Asphere**;
  Dr. K. Mantel; Max Planck Institute for the Science of Light; Germany
- **Non-Contact Asphere Metrology at TRIOPTICS**;
  C. Drake; TRIOPTICS GmbH; Germany
- **Repeatability HLEM Aspheres with laser 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**;
  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

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

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**Firm, Institution:**
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**First Name:**
____________________________________

**Address:**
____________________________________

**Postal Code, City:**
____________________________________

**Tel., Fax:**
____________________________________

**E-Mail:**
____________________________________

**Signature:**
____________________________________

- 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.