

Optical Spectrometer: Design, Technology, Application and Trend



The workshop takes place on **11th and 12th of March 2008** at the **Institute of Photonic Technology (IPHT)**,
Albert-Einstein-Str. 9, 07745 Jena, www.ipht-jena.de



Scope

The Workshop will discuss advanced technologies for spectrometers in relation to its application. It should give an overview about the state-of-the-art, the trends like miniaturization, enhancement of sensitivity and enhancement of the dynamic range, the adaptation to specific tasks, due to the costs and to the market. A main interest should be the high performance spectrometers and spectral sensors as well as its physical and technological limits. Specific applications as well as markets which enables the technology should be included. Ideas, trends and visions and its discussions are welcome.

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Tuesday, 11th of March (presentations preferred in English, German is possible, **max.** 20' incl. discussion)

14:00 **Welcome** by Jürgen Popp, director of the IPHT

14:10 **Overview & trends**

Trends und neue Lösungsansätze für Spektrolsensoren

N. Correns; Carl Zeiss Microimaging GmbH, Jena

Trends und neue Entwicklungen auf dem Spektrometermarkt

R. Geiger; HORIBA Jobin Yvon GmbH, Bensheim

Leistungsfähige Analytik mit modernen Spektrometern

G. Schlemmer; Analytik Jena AG, Jena

Spectrometry heritage at TNO; future plans and collaboration possibilities

H.J.P. Vink; TNO, The Netherlands

IR-Spektrometer, technologische Konzepte und Trends (Kurzvortrag)

A. Simon, Bruker Optik GmbH, Ettlingen

15:40 break

16:20 **Miniaturization, MEMS**

Miniaturized Fourier Spectrometers: A new concept for high performance sensing

T. Scharf; ARCOptix S.A., Neuchâtel, Switzerland

Dual-Detektor MEMS-Spektrometer für den Nahinfrarotbereich

R. Saube; Fraunhofer IZM, Chemnitz

Das Scanning Grating Spectrometer - Ein kleines, günstiges Spektrometermodul auf Basis eines dispersiven Mikrosystems, A. Wolter; HiperScan GmbH, Dresden

18:30 **Come together and individual supper**
(the place will be announced after registration deadline)

Wednesday, 12th of March

9:00

Design & Technology

Echelle Spektrometer, *state of the art* und *limits*

H. Becker-Roß; ISAS, Berlin

Double-Array spectrometer, examples and trends

R. Riesenberg, A. Wuttig; IPHT, Jena

Opto-mechanical design of spectrometers

Th. Peschel, Ch. Damm, R. Eberhardt; Fraunhofer IOF, Jena

Zwei neue Methoden zur Steigerung der Beugungseffizienz von spektroskopischen Gittern, *H.-J. Dobschal; Carl Zeiss AG, Jena*

10:20

break

10:50

Space instruments

About spectrometer missions

B. Harnisch; ESA/ESTEC, Noordwijk, The Netherlands

Special demands and trends for spectrometers in space applications

T. Reinert; EADS Astrium GmbH, Friedrichshafen

RAMAN/LIBS spectrometer for Mars mission

B. Ahlers; TNO, The Netherlands

Spektrometer für Planeten Missionen

H. Thiele; Kayser-Threde GmbH, Munich

12:10

break

13:30

Application

A novel spectral filter analyzer for Bragg grating based strain and temperature measurements, *N. Samfirescu, M.A. Bader, T. Schanze; CORRSYS 3D Sensors AG, Photonic Zentrum Hessen*

Spektrometerlösungen für den agrartechnischen Einsatz

M. Rode; Carl Zeiss Microimaging GmbH, Jena

Spectrometric devices for optics from XUV to NIR

H. Blaschke, D. Ristau, Laser Zentrum Hannover e.V.

Präzise und kostengünstige spektrale Messung von photometrischen und farbmtrischen Daten, *S. Görlich, JETI Technische Instrumente GmbH, Jena*

14:50

break

15:20

Application & spectral imaging & color measurement technique

Spectral Domain-OCT: Application Fields in Material Research

B. Heise; Upper Austrian Research GmbH, Linz, Austria

Spectral-Imaging-Technologie - Anwendungen und Möglichkeiten

F. Erfurth; GMBU e.V., Jena

Intelligente Farbsensoren mit intuitiver Touch Screen Bedienung (Kurzvortrag)

D. Hofmann; STEINBEIS Transferzentrum Qualitätssicherung & Qualitätsmesstechnik, Jena

Mehrkanalig spektral selektive Siliziumsensoren - Aufbau und Anwendungsgebiete

G. Sieß, F. Hailer, Krumbein, F. Grunert, MAZet GmbH, Jena

16:50

Summary: Jürgen Popp, Rainer Riesenberg

Registration

Please register up to the **29th of February 2008**
by fax (+ 49 (0) 3641 206 399) or by email
(christian.graulig@ipht-jena.de or manuela.meuters@ipht-jena.de)
(name, title, company/institution, phone and email, do you arrive by car ?).

Accomodation:

We have reserved a limited number of rooms in Jena up to the 11th of February 2008, please contact Mrs. M. Meuters.