

# The 14th International Conference on Infrared and Millimeter Waves



Würzburg, October 2-6, 1989  
Federal Republic of Germany

## CONFERENCE DIGEST

Editor: Michael von Ortenberg

SPIE - Volume: 1240

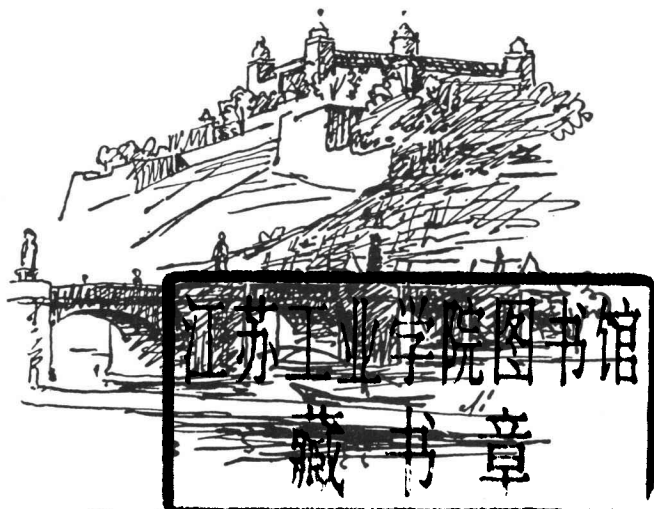
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SPIE—The International Society for Optical Engineering

Physics Department of the University of Würzburg  
Institut für Halbleiterphysik und Optik, TU Braunschweig

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## Organizer's Foreword:

The series of the "International Conferences on Infrared and Millimeter Waves" has been well established over the years with a steadily increasing participation. Generation and Spectroscopy have been the two centres so far. At the present conference we are trying to create a new focal point: Applications, especially Technical Applications. All central subjects are covered by a wide selection of invited as well as Contributed Talks. The organizer likes to express his gratitude to the creativity and stimulation of both the Program and Advisory Committee. Without generous sponsors no conference will succeed and I like to focus your attention on the sponsors listed below. There seems to be no comparison with the engagement of my coworkers, who helped me to build up all the conditions necessary for the success of such a conference. My sincere gratitude for their enthusiastic help is the least I can pay back to them. I do hope that this year the "14th" will be again a stimulating and exciting scientific forum as the "5th" in 1980 was. Besides of the high scientific quality, which was ensured by a strict refereeing, the charming of the City of Würzburg will surely help you to combine your scientific ambition with your personal enjoyment. I do not close without pointing your attention on the "15th", December 9-14, 1990 at the GROSVENOR RESORTY HOTEL, Lake Buena Vista (Orlando), Florida, USA. Our General Chairman Dr. Kenneth J. BUTTON will be happy to give any information.

Dr. Kenneth J. BUTTON  
Box 72, MIT Branch  
Cambridge, MA 02139-0901  
USA  
FAX and Tel: (617)253-5561

(winter address)  
Box 2456  
Satellite Beach, FL 32937  
USA  
FAX and Tel: (407)777-7293

September 14, 1989, Michael von Ortenberg  
Institut für Optik und Halbleiterphysik  
Technische Universität Braunschweig  
Mendelssohnstraße 3  
D-3300 Braunschweig  
F. R. Germany



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## GENERAL INFORMATION

### INTRODUCTION

The "14th International Conference on Infrared and Millimeter Waves" will be held in the main building of the University at Würzburg at Sanderring 2. The conference office will be open on Sunday, October 1, 1989 from 4 p.m. There will be an **INFORMAL OPENING PARTY** starting at 6 p.m. The **CONFERENCE STARTS** on Monday, October 2, at 8:15 a.m. with the official opening and will close on Friday, October 5, in the afternoon after the official closing at 6:15 p.m.

The conference is sponsored by.

**SPIE - The International Society for Optical Engineering -**  
**Telefunken Systemtechnik GmbH, Ulm, F R Germany**  
**Universität Würzburg**  
**Physikalisches Institut der Universität Würzburg**  
**Technische Universität Braunschweig**  
**Institut für Halbleiterphysik und Optik, TU Braunschweig**

For the case that you need some information or help concerning the conference even months later please contact the organizer

**Prof Michael von ORTENBERG**  
**Institut für Halbleiterphysik und Optik**  
**Technische Universität Braunschweig**  
**Mendelssohnstraße 3**  
**Tel (531)-391-5142**  
**FAX (531)-391-5155**



## ORGANIZATION

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K.J. BUTTON, Cambridge

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## REGISTRATION.

Deadline for the Preregistration was August 1st, 1989 Late Registration will be at the Conference Office The Conference Fee will be DM 300,- It includes the costs for the Conference Digest and the Social Program for one person For a One Year Subscription of the "The International Journal of Infrared and Millimeter Waves" as the official Conference Proceedings additional DM 95,- will be charged

## CONFERENCE PROCEEDINGS

After refereeing the original papers will be published in **"The International Journal of Infrared and Millimeter Waves"**, Plenum Press There is no limitation in the length of the paper nor a deadline for submission The manuscripts should be sent on special templates to the editor

Dr K J BUTTON  
(Winter address)  
Box 2455  
Satellite Beach  
Florida 32937, USA

(Summer address)  
Box 72, MIT Branch  
Cambridge, Massachusetts 02139-0902  
USA

## SESSIONS.

All sessions will be held at the Conference Location **"Neue Universität", Sanderring 2** We will have about 40 **Invited Talks** (45 minutes + 15 minutes discussion) and about 240 **"Contributed Talks"** (15 minutes + 5 minutes discussion) in four parallel sessions Due to the tough program both **Speakers and Chairmen are asked to keep strictly the schedule** Otherwise the established program becomes worthless As the conference covers a wide variety of subjects the attendants are asked to decide "breaks" at their own choice and relax in the Lobby at their ease In the four lecture halls both overhead- and slide-projectors (5x5 cm) are available For **slide projection authors are kindly asked to arrange appropriate projection by one of their colleagues. No operators will be available**

## SOCIAL PROGRAM:

The Social Program starts with the "informal" Opening Party on Sunday, October 1st, 1989 at 6 p m in the Lobby of the "Neue Universität", the Conference Building It continues with a Wine Tasting Party in the famous Cellars of the Residence on Monday, October 2nd, 1989 at 7 p m We meet in front of the left wing of the residence **Admittance only with valid ticket!** Additional tickets may be purchased at the Conference Office for DM 35,- per ticket Late comers will find the door locked! An Organ Concert in the Neubau-Kirche (former university church) will be given on Tuesday, October 3rd, 1989 at 8 p m Entrance to the Neubaukirche is via the inner yard of the "Old University" On Thursday, October 5th, 1989 at 7 p m an Reception by the Mayor of the City of Würzburg will be given in the Wine Press Hall of the "Mainfränkische Museum" in the Castle Marienberg on the top of the castle hill A twenty minutes walk from the Old Main Bridge will lead you to the meeting point in front of the museum in the outer yard of the castle

## EXHIBITION

During the conference there is an exhibition of equipment for use in the spectral range of infrared and millimeter waves. The exhibition is located in the Great Lobby of the conference building at Sanderring 2, just opposite to the main lecture hall. Enjoy your coffee and have a look at the splendid equipment commercially available.

The following companies participate in the exhibition:

### **AB-Millimètre**

61-71 rue Benoit Franchon, F-78500 Sartrouville, France

### **Bruker Analytische Messtechnik GmbH**

Silberstreifen, D-7512 Rheinstetten 4, F R Germany

### **MüTek GmbH**

Arzbergerstraße 10, D-8036 Herrsching, F R Germany

### **Polytec GmbH**

Siemensstraße 13-15, D-7517 Waldbronn 1, F R Germany

### **ProNova Messtechnik GmbH**

Augsburger Strasse 31A, D-8038 Grobenzell, F R Germany

### **Wacker electronic GmbH**

Niederanau 36, D-6000 Frankfurt/M, F R Germany

We ask you kindly for your attention to the products of the above mentioned exhibitors.

## ADVERTISEMENT

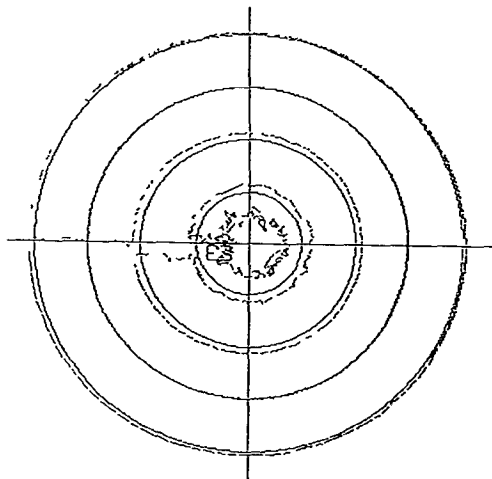
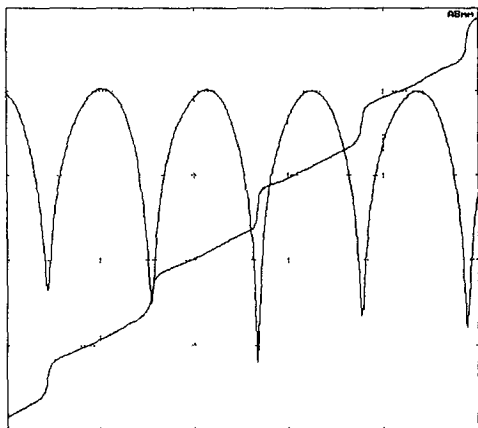
Within this Digest you find also some pages of advertisement of some companies related to our research, please note their announcements.

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- Antenna Patterns (25 to 300 GHz),
- Michelson Interferometer (150 to 430 GHz, see figure below),
- Solid and Liquid Dielectrics (24 to 436 GHz), etc.



(Above) 94 GHz polar plot, 20 dB between solid circles. In series with a phase-shifter, attenuators at 10, 30, 50, 70 and 80 dB (inner, less regular circle).

(Left) Transmission through a Michelson Interferometer at 285 GHz. Vertically: 10 dB and 360 degrees/div; horizontally: 0.47 mm/div.

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61-71, rue Benoît Frachon  
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tel: (33 1) 40 47 03 39  
fax: (33 1) 43 35 53 10

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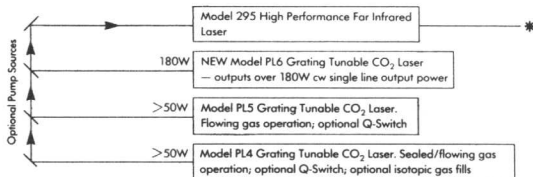
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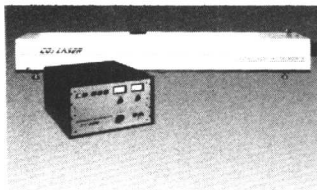
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**WINE TASTING PARTY**  
**in the**  
**WINE - CELLARS of the RESIDENCE**

**Monday, October 2nd, 1989**

**at 7 p.m.**

We meet in front of the Left Wing of the Residence.  
Please be in time! Late comers will find the entrance locked.

All Participants have to show a valid Ticket at the Entrance.



Bayerische  
Julius-Maximilians-Universität  
Würzburg

## ORGAN CONCERT

in the NEUBAUKIRCHE – Great Hall of the University

Tuesday, October 3, 1989

8 p.m.

At the SCHUKE – Organ:

**Professor Dr. Louis H. DEBES**

**Suite D – DUR**

Trumpet Tune and Air – Minuet I –  
Minuet II – Gavott – Trumpet Tune

**H. Purcell**  
(1659 – 1695)

**Präludium und Tripelfuge Es – Dur BWV 552**

**J. S. Bach**  
(1685 – 1750)

**Fantasie f – Moll KV 608**

Allegro – Andante – Allegro

**W.A. Mozart**  
(1756 – 1791)

**Allegretto**

für eine Spieluhr

**L. v. Beethoven**  
(1770 – 1827)

**Entrée – Canzona – Sortie op. 62**

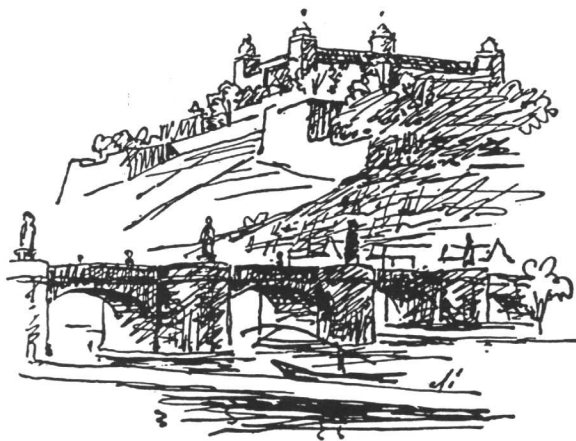
**M. Dupré**  
(1886 – 1971)

**Carillon de Westminster**

Pièce de Fantaisie op. 54

**L. Vierne**  
(1870 – 1937)





## RECEPTION

by the **MAYOR** of the  
**CITY of WÜRZBURG**

in the

**WINE - PRESS HALL of the CASTLE "MARIENBERG"**

**(MAINFRÄNKISCHES MUSEUM)**

**Thursday, October 5th, 1989**

**at 7 p.m.**

There is a twenty-minutes walk from the Alte-Main-Brücke to the top of the Castle Hill.  
We meet in the Outer Yard of the Castle in front of the Museum Entrance.