



UNIVERSITE DES
SCIENCES ET
TECHNOLOGIES DE LILLE

**PhysicoChimie des Processus de Combustion
et de l'Atmosphère (PC2A)**

Unité Mixte de Recherche CNRS/USTL 8522 - FR CNRS 2416 CERLA



CENTRE NATIONAL DE
LA RECHERCHE
SCIENTIFIQUE



**3rd Cavity Ring-Down
User Meeting**

October 10, 2003

**CERLA
University of Lille
Villeneuve d'Ascq, France**

Sponsored by

**Sacher Lasertechnik Group
Photonic Systems & Devices**



and

Tigeroptics,LLC

Program

- 9⁰⁰ – 9³⁰** Registration
- 9³⁰ – 9⁴⁰** Welcome
- 9⁴⁰ – 10⁰⁵** Cavity Ring-Down Spectroscopy using a Prism Cavity
Wen-Bin Yan
Tiger Optics, Warrington
- 10⁰⁵ – 10³⁰** Fourier transform phase shift cavity ring down spectroscopy
R. Zijlmans, E. Hamers, D. Schram, R. Engeln
Department of Applied Physics, Eindhoven University of Technology
- 10³⁰ – 10⁵⁵** Cavity enhanced absorption spectroscopy with a modelocked laser: Playing with frequency combs
D. Romanini
Laboratoire de Spectrométrie Physique, Université J. Fourier Grenoble 1
- 10⁵⁵ – 11³⁰** Coffee break and poster session
- 11³⁰ – 11⁵⁵** Optical Feedback Cavity Enhanced Spectroscopy
Jérôme Morville⁽¹⁾ and Danièle Romanini⁽²⁾
(1)Laboratoire de Spectroscopie ionique et Moléculaire Université Lyon
(2)Laboratoire de Spectrométrie Physique, Université J. Fourier Grenoble 1.
- 11⁵⁵ – 12²⁰** New thin-film CRDS diagnostic for real-time, *in situ* detection of dangling bonds during plasma deposition of thin films
J.P.M. Hoefnagels, A.C.R. Pipino, I.M.P. Aarts, M.C.M. v.d. Sanden,
W.M.M. Kessels.
Dept. of Applied Physics, Eindhoven University of Technology
- 12²⁰ – 14⁰⁰** Lunch

- 14⁰⁰ – 14²⁵ CRDS of a Diamond Depositing DC Arcjet Reactor
Christopher Rennick
School of Chemistry, University of Bristol
- 14²⁵ – 14⁵⁰ Coupling of LIF/CRDS for flame structure studies
Laure Pillier, Xavier Mercier, Pascale Desgroux
Physicochimie de Processus de Combustion et de l'Atmosphère, Université Lille
- 14⁵⁰ – 15¹⁵ Photochemistry of Formaldehyde
M.N.R. Ashfold, A.J. Orr-Ewing, F.D. Pope, D.E. Shallcross, C.A. Smith.
School of Chemistry, University of Bristol
- 15¹⁵ – 15⁴⁵ Coffee break and poster session
- 15⁴⁵ – 16¹⁰ Transportable difference frequency cavity leak-out spectrometer for online breath analysis
Daniel Halmer, Golo von Basum, Peter Hering, Manfred Mürtz
Institute of Laser Medicine, Universität Düsseldorf
- 16¹⁰ – 16³⁵ Real-time detection of ethane in air with an OPO-based mid-infrared cavity leak-out spectrometer
Golo von Basum, Frank Müller, Daniel Halmer, Alexander Popp, Stephan Schiller, Peter Hering, Frank Kühnemann, and Manfred Mürtz
Institute of Laser Medicine, Universität Düsseldorf
- 16³⁵ Closing remarks, laboratory tour and drinks

Poster presentation

Fiber Cavity Ring Down Technique

D. Vogler

Institute of Quantum Electronics, ETH Zürich

An optical feedback CRDS instrument for the in-situ measurement of isotopes in stratospheric water

R. Iannone, D. Romanini*, and E. Kerstel

Center for Isotope Research, University of Groningen, The Netherlands

Sensitive measurements of cross sections using phase shift cavity ring down spectroscopy

J.H. van Helden, A. El Fattahi, D.C. Schram, R. Engeln

Department of Applied Physics, Eindhoven University of Technology

High resolution spectroscopy of water vapour in near IR

V. Motto-Ros¹, L. A. Hernandez², L. Reichert², J. Morville¹, J. Burrows², and P. Rairoux¹

¹LASIM, Université Claude-Bernard Lyon1

²Institute of Environmental Physics IUP/IFE, University of Bremen

Fast exponential fitting procedure for real time instrumental use

D. Halmer, G. von Basum, P. Hering, M. Mürtz

Institute of Laser Medicine, Universität Düsseldorf

Highly-sensitive determination of the defect density in a Si-H film by cavity ring down spectroscopy at sub gap energies

I.M.P Aarts, A.H.M. Smets, B. Hoex, R. Engeln, W.M.M. Kessels, M.C.M. van de Sanden, Eindhoven University of Technology

Numerical and experimental study of the mode tuning technique effects. Application to the cavity ring-down spectroscopy

J. Remy, G.M.W. Kroesen, W.W. Stoffels

Applied Physics Department, Eindhoven University of Technology

Study of NO creation by air photolysis using CRDS :Molecular Tagging Velocimetry application

C. Schoemaeker

Applied Physics Group, University of Nijmegen

CRDS in sooting flames

X. Mercier, L. Pillier, C. Schoemacker, E. Therssen, P. Desgroux

Physicochimie de Processus de Combustion et de l'Atmosphère, Université Lille

Compact Tuneable External Cavity Diode Laser (ECDL) with Diffraction Limited 500 mW, and their application in BEC and CRDS

S. Stry, L. Hildebrandt, and J. Sacher

Sacher Lasertechnik