



"PIERO CALDIROLA" INTERNATIONAL CENTRE FOR THE PROMOTION OF SCIENCE
AND INTERNATIONAL SCHOOL OF PLASMA PHYSICS



INTERNATIONAL CONFERENCE ON

ULTRASHORT HIGH-ENERGY RADIATION AND MATTER

VILLA MONASTERO, VARENNA, ITALY

October 7 -10, 2003

ORGANISED BY

- "Piero Caldirola" International Centre for the Promotion of Science
and International School of Plasma Physics, Milano, Italy
- University of Milano Bicocca, Milano, Italy

PURPOSE

The workshop is intended as a forum to discuss the latest experimental, theoretical and computational results related to the interaction of high energy radiation with matter. High energy is intended to mean soft x-ray and beyond, but important new results from visible systems will be incorporated. The workshop will be interdisciplinary amongst scientists from many fields, including: plasma physics; x-ray physics and optics; solid state physics and material science; biology; quantum optics.

Topics will include, among other subjects:

understanding damage thresholds for x-ray interactions with matter
developing ~ 5 keV x-ray sources to investigate damage,
developing ~ 100 keV Thomson sources for material studies,
developing short pulse (100 fs and less) x-ray diagnostics,
developing novel X-ray optics
developing models for the response of biological samples to ultra
intense, sub ps x-rays high-energy radiation

DIRECTORS

A.Wootton, Lawrence Livermore National Laboratory, USA
D.Batani, University of Milano Bicocca, Italy

SCIENTIFIC COMMITTEE

Rene Bakker, Sincrotrone Trieste, Italy
Dimitri Batani, University of Milano Bicocca, Italy
Michel Belakhovsky, CEA-Grenoble, France
Thomas Brabec, University of Ottawa, Canada
Sandro De Silvestri, Politecnico di Milano, Italy
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Marcus Roth, GSI Darmstadt, Germany
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Wolfgang Sandner, Max-Born-Institut, Berlin, Germany
Elio Sindoni, University of Milano Bicocca and ISPP, Italy
Thomas Tschemtscher, Hasylab, DESY, Hamburg, Germany
Alan Wootton, Lawrence Livermore National Laboratory, USA

LOCAL ORGANISING COMMITTEE

D. Batani, University of Milano Bicocca, Italy
T. Desai, University of Milano Bicocca, Italy
F. Strati, University of Milano Bicocca, Italy
M. Milani, University of Milano Bicocca, Italy
M. Lontano, IFP, CNR, Milano, Italy
D. Pifferetti, ISSP, Italy
E. Sindoni, University of Milano Bicocca and ISPP, Italy

PRELIMINARY LIST OF INVITED TALKS:·

RICHARD R. FREEMAN, University of California Davies
"The use of ultra-high intensity, short pulse lasers in fusion energy development"

LEONIDA GIZZI, CNR, Pisa
"Recent results in laser-plasma X-ray sources"

FRED HARTEMANN, Lawrence Livermore National Laboratory
"Basic concepts in advanced X-ray sources"

MELVYN FOLKAR, Gray Cancer Institute
"Developing an x-ray microprobe (and a proton microbeam facility) for studies of cellular radiation response"

ALAN MICHETTE, King's College, London
"Recent developments in laser-plasma sources and optics for x-ray microscopy and microprobing"

PAOLO VILLORESI, University of Padova
"Toward the single-cycle regime in the generation of high-order laser harmonics"

MICHELE BERTOLO, Elettra, Trieste
"Synchrotron radiation: properties and related analysis techniques"

MATT ZEPF, Queen's University Belfast "gamma ray beam production and probing in laser matter interaction"

JACEK KRZYWINSKI, Warsaw University
"Results from the TTF phase 1 on FEL beam induced damage of optical elements"

RENE BAKKER, Sincrotrone Trieste, Italy
"Development of VUV and X-ray FELs"

RICHARD LONDON, Lawrence Livermore National Laboratory
"The physics of photon- materials interactions"

JÜRGEN MEYER-TER-VEHN, MPQ Garching
"Plasma physics with X-rays"

JANOS HAJDU, Biomedical Center, Uppsala, Sweden
"Biological applications of next generation X-ray sources"

KLAUS EIDMANN, MPQ Garching
"Isochoric heating of matter by intense X-ray pulses"

GIUSEPPE TOMASSETTI, University of L'Aquila
"Table top X ray laser systems"

BRIGITTE CROS, LPGP, University of Orsay
"Soft X-ray laser driven by a guided ultra-short laser pulse"

MARCO BELLINI, Istituto Nazionale Ottica Applicata, Firenze
"Generation and applications of XUV harmonics"

MARKUS ROTH, TU-Darmstadt, Germany
"X-Ray and particle diagnostics for warm dense matter research"

KAZUTAKA G. NAKAMURA, Tokyo Institute of Technology
"Picosecond time-resolved X-ray diffraction from laser-shocked semiconductors"

JOHN COSTELLO, Dublin City University
"Photoabsorption and Photoionization Imaging and Spectroscopy with Laser Plasma Light Sources"

ROUSSE ANTOINE, LOA, Ensta, Palaiseau
"Applications of X-ray femtosecond pulses and time-resolved X-ray diffraction"

ANDRE' EGBERT, Laser Zentrum Hannover

THOMAS TSCHENTSCHER, Hasylab, Desy

"Overview of X-ray FELs and experimental possibilities in the next future, using the VUV-FEL in Hamburg and SPPS in Stanford"

ANATOLY FAENOV, Nat.Res.Inst. Phys. Measurements, Moscow
"Hot electron influence on the radiation properties of matter under interaction by short laser pulses"

SPONSORED BY:

"Piero Caldirola" International Centre for the Promotion of Science and International School of Plasma Physics, Milano, Italy
"FEMTO" Programme of the European Science Foundation (ESF).

APPLICATIONS:

Application and hotel reservation forms can be obtained from the Organizing Secretariat at the following address:

Mrs. Donatella Pifferetti

Via Nazionale, 85, 23821 Abbadia Lariana (LC), Italy

e-mail: isplasma@tin.it, Fax +39-0341-732490

They can also be downloaded from the conference web site (www.ispp.it). Information on hotel categories and prices are also available at the web site.

Deadline for hotel reservation: **June 15, 2003**

CONTRIBUTED PAPERS

Contributed papers for the workshop will be selected on the basis of a one page abstract. These abstracts should be sent by **June 15, 2003** to: D. Batani, Fax +39-02 64482585, e-mail batani@mib.infn.it

No particular form is required.

REGISTRATION FEE

A registration fee of € 360 should be paid **in Varenna at the registration desk.**

Alternatively, the same fee can be paid by **August 1, 2003**, by bank transfer to: Banca Popolare di Lecco, Division of the Deutsche Bank, Via IV Novembre, 23829 Varenna (LC), Italy, account n. c/c 9500/E, ABI 03104, CAB 51830, SWIFT DEUTITM1029, in favour of International School of Plasma Physics, indicating clearly the participants' names. All bank expenses are at participants' charge. The fee covers admission to the Workshop and social events.

FURTHER INFORMATION CAN BE OBTAINED FROM

D. Batani, University of Milano Bicocca

Fax +39-02-64482585 email batani@mib.infn.it

IMPORTANT NOTICE:

The organizing secretariat will be closed from June 16 to June 30.