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**CONFERENCE ON
LASERS AND ELECTRO-OPTICS**

25-29 APRIL 1988

Anaheim, California

**CONFERENCE
ON
LASERS AND ELECTRO-OPTICS**

**1988 Technical Digest Series,
Volume 7**

Conference Edition

Summaries of papers presented at the
Conference on
Lasers and Electro-Optics

25-29 April 1988
Anaheim, California

Sponsored by

Lasers and Electro-Optics Society of the
Institute of Electrical and Electronics Engineers

and

Optical Society of America

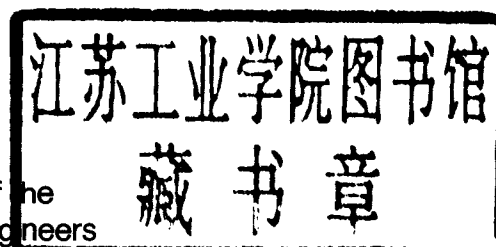
in cooperation with

Quantum Electronics Division of the European Physical Society

and the

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Optical Society of America
1816 Jefferson Place, N.W.
Washington, D.C. 20036
(202) 223-8130



Articles in this digest may be cited in other publications. To facilitate access to the original publication source, the following form for the citation is suggested:

Name of Author(s), "Title of Paper," in *Conference on Lasers and Electro-Optics Technical Digest Series 1988, Vol. 7* (Optical Society of America, Washington, DC 1988), pp. XX-XX.

ISBN Number

Conference Edition 1-55752-033-X

Postconference Edition 1-55752-034-8

Note: Postconference Edition includes postdeadline papers.

1988 Technical Digest Series 1-55752-045-3 (hardcover)

Library of Congress Catalog Number

Conference Edition 87-062776

Postconference Edition 87-062777

IEEE catalog number 88CH2583-3

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Printed in the U.S.A.

FOREWORD

Welcome to CLEO 88, the Eighth IEEE/OSA Conference on Lasers and Electro-Optics. CLEO, which has become the major annual conference of its kind, provides a forum for timely communications related to lasers, quantum electronics, and electro-optics devices and systems, with emphasis extending from basic scientific research to engineering uses. This broad range of coverage has drawn a record number of high quality contributed papers to the conference this year. A total of 557 papers contributed from many corners of the globe have been accepted for presentation. This, along with an outstanding selection of 78 invited talks, promises an exceptionally strong technical program.

We are pleased to hold CLEO 88 at the Anaheim Convention Center with its ample exhibits hall and meeting rooms and in close proximity to many excellent hotels and some of Southern California's most exciting tourist attractions.

A plenary session will be held Monday afternoon after the usual Monday morning registration rush. The plenary session will consist of four presentations of broad interest to the laser/electro-optics community. The first paper by R. K. Runge of AT&T Bell Laboratories will introduce the World's First Trans-Oceanic Lightwave System. This will be followed by the R. V. Pole Memorial Lecture on Ultrafast Optics and Optoelectronics by E. P. Ippen of MIT. The third plenary paper, Frontiers of Semiconductor Lasers, will be presented by D. R. Scifres of Spectra Diode Laboratories. The session will conclude with a presentation on Laser Fusion—Toward Breakeven by

John Nuckolls of Lawrence Livermore National Laboratory. A brief awards ceremony will be part of the plenary session, during which Arthur Ashkin of AT&T Bell Laboratories will receive the 1988 Charles Hard Townes Award.

There will be three poster sessions and a post-deadline session featuring new results. Selected short courses for review and professional advancement will be held on the day preceding the conference, Sunday, 23 April. These courses, selected with the help of Michael Bass, are offered by the Laser Institute of America.

Complementing the technical program will be a technical exhibition of the latest instruments, components, systems, and services. Virtually every company directly and indirectly involved in lasers and electro-optics is represented by personnel capable of discussing technical requirements. We are grateful for the efforts of Exhibits Chair, Martin Cohen, and of Exhibits Manager, Carole Benoit-Black, for organizing this exhibit.

On Wednesday evening, 27 April, there is a reception to renew old acquaintances and meet new colleagues. The reception will be accompanied by a holographic art exhibition.

A conference of this magnitude requires an enormous amount of preparation involving the combined efforts of a large group of people. This year's technical program is the result of many months of dedication and hard work on the part of Program Cochairs Thomas G. Giallorenzi and Steve Guch, Jr., and their program committee. Putting together a well-balanced program is difficult and time-consuming. Minimizing conflict in a conference with six parallel sessions is a great challenge; we applaud their accomplishments. Special thanks also go to Sune Svanberg, Kenichi Iga, G. A. Mesyats, and Run-Wen Wang and their respective subcommittees (Europe, Japan, U.S.S.R., and China) for their valuable efforts to ensure international participation.

The true challenge of managing a conference of this magnitude and complexity is met by the OSA meetings department staff whose attention to vital details is nothing short of exceptional. The talents and dedication of Barbara Hicks, Mary Ellen Malzone, and Jarus Quinn are major contributions to the success of CLEO. Thanks also to Tiemo von Zweck for his expert assistance as Comptroller in the management of the financial affairs and to Richard Cunningham, Publicity Chair, for his skillful efforts and insured diverse and well-timed publicity coverage.

We thank you for participating in CLEO 88; your attendance will ensure another successful meeting. We look forward to next year's CLEO at the Baltimore Convention Center under the chairmanship of Robert A. Bartolini and Paul F. Liao.

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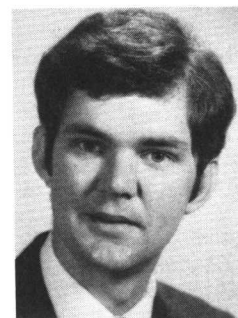
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TUB3 Scaling of a high-pump-rate 500-J KrF laser KEN- ICHI UEDA, HIROSHI TAKUMA **(9:00 AM)**

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TUB4 High-power amplification of picosecond pulses in KrF excimer amplifiers J. R. M. BARR, N. J. EVERALL, C. J. HOOKER, I. N. ROSS, M. J. SHAW, W. T. TONER **(9:15 AM)**

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TUB5 Efficient intensity enhancement at 248 nm T. D. RAYMOND, CHRISTOPHER REISER, R. G. ADAMS, R. B. MICHIE, C. WOODS **(9:30 AM)**

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TUB6 Pulse shaping in KrF amplifiers JAY R. ACKER- HALT, DAVID E. HANSON **(9:45 AM)**

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26 April 1988

CALIFORNIA ROOM C

8:30 AM Coherent Systems

Ivars Meingalls, MIT Lincoln Laboratory, Presider

TUC1 400-Mbit/s optical heterodyne DPSK system experi- ment with in-line 1.5- μ m amplifiers J.-M. P. DELAUAUX, T. C. RICE, L. D. TZENG, R. T. KU, S. J. SALKO **(8:30 AM)**

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TUC2 Polarization-maintaining fiber coupler for coherent DPSK systems J.-M. P. DELAUAUX, L. D. TZENG, M. DIXON, J. R. SIMPSON **(8:45 AM)**

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TUC3 Polarization recombining: a new automatic polariza- tion control scheme for heterodyne or homodyne optical recei- vers V. NAPASAB, T. OKOSHI **(9:00 AM)**

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TUC4 Compact and stable distributed feedback laser diode module with a fiber external cavity H. ONAKA, H. MIYATA, M. SUYAMA, H. KUWAHARA **(9:15 AM)**

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TUC5 Power partition fluctuations in two-mode-degenerate distributed-feedback injection lasers K.-Y. LIOU, M. OHTSU, C. A. BURRUS, U. KOREN, T. L. KOCH **(9:30 AM)**

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TUC6 Influence of laser phase noise on 400-Mbit/s coherent optical DPSK system CHIEN-YU KUO, J.-M. P. DELAUAUX, L. D. TZENG, D. A. ACKERMAN **(9:45 AM)**

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TUD2 Long-wavelength solid-state photomultipliers M. G. STAPELBROEK **(9:00 AM)**

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TUD3 Wideband interdigitated-electrode p-HgCdTe photo- mixers at 25 μ m D. L. SPEARS **(9:30 AM)**

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TUD4 Wideband 10.6- μ m single-sideband electrooptic mod- ulator characteristics: experimental results R. S. ENG, J. K. PARKER, J. L. BUNIS, N. W. HARRIS, D. M. WONG **(9:45 AM)**

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Peter W. Smith, Bell Communications Research, Presider

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