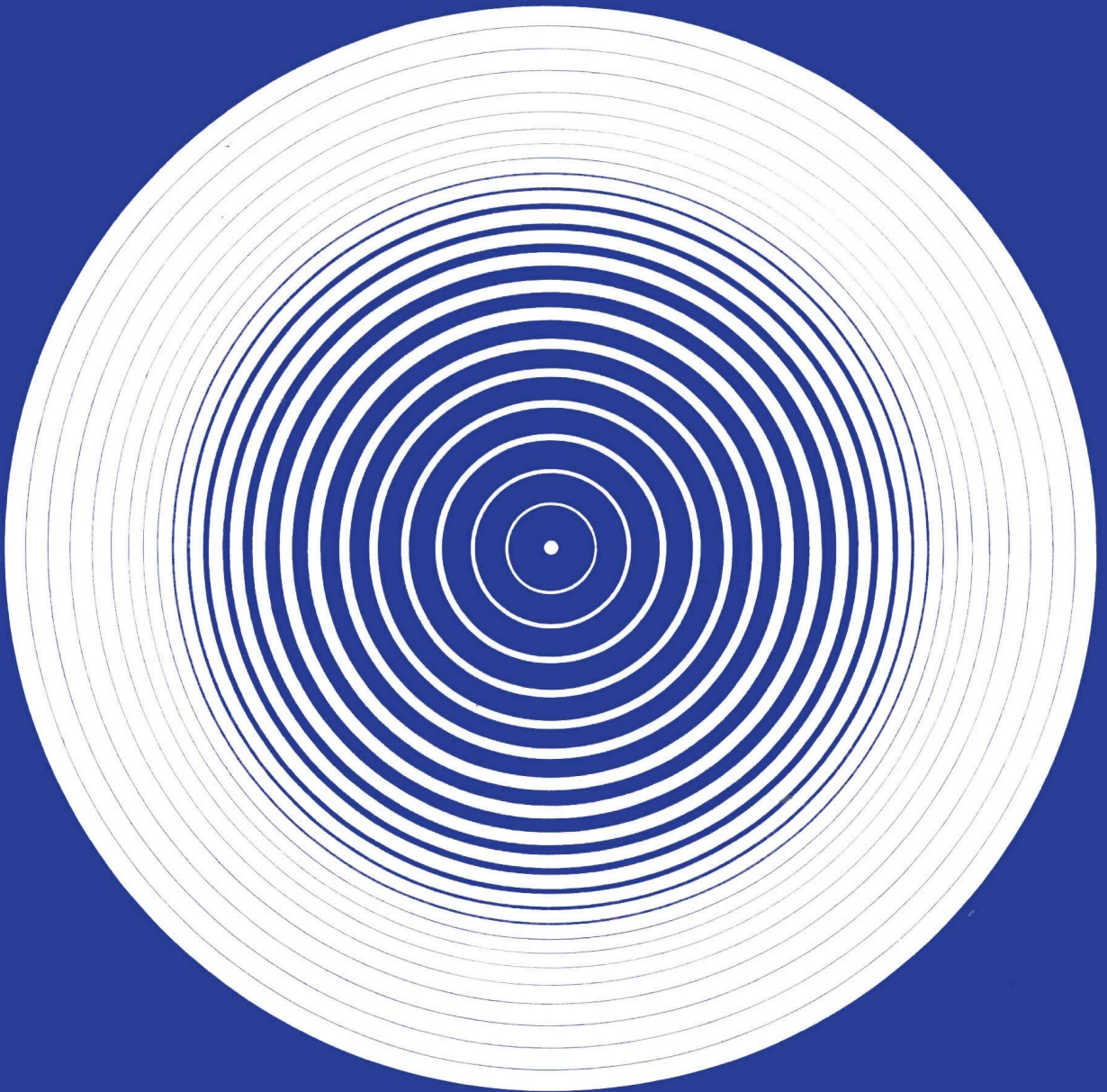


LASER AND PARTICLE BEAMS

VOLUME 7 PART 1

FEBRUARY 1989

PULSE POWER AND HIGH ENERGY DENSITIES



Laser and Particle Beams

Pulse Power and High Energy Densities

Editor in Chief: HEINRICH HORA
Head, Department of Theoretical Physics
University of New South Wales
Kensington 2033, Australia

Managing (and USA) Editor:
G. H. MILEY (for USA)
Director, Fusion Studies Laboratory,
University of Illinois,
103 S. Goodwin Ave., Urbana, IL 61801,
USA

Associate Editors:
R. DAUTRAY (for Europe)
Scientific Director, CEA Limeil, B.P. 27
94190 Villeneuve St. Georges, France
A. H. GUENTHER
Chief Scientist (Def. Res. Appl.),
Los Alamos Nat. Laboratory,
Los Alamos, NM 87545,
USA
C. YAMANAKA (for Japan)
Director, Institute of Laser Engineering,
Osaka University, Suita,
565 Osaka, Japan

Editorial Board
N. G. Basov (Moscow)
P. van Devender (Albuquerque)
S. Eliezer (Soreq, Israel)
J. L. Emmett (Livermore)
A. J. Glass (San Francisco)
A. H. Guenther (Kirtland AFB)
R. J. Jensen (Los Alamos)
G. Kessler (Karlsruhe)
M. H. Key (Rutherford Appleton Lab.)
R. L. McCrory (Rochester)
P. Mulser (Darmstadt)
S. Nakai (Osaka)
K. Niu (Nagatsuta)
A. A. Offenberger (Alberta)
A. M. Prokhorov (Moscow)
B. Ripin (Washington)
D. D. Ryutov (Novosibirsk)
J. P. Watteau (CEA Limeil)

Laser and Particle Beams is an international journal which covers the generation, and the interaction with matter, of high intensity laser and particle beams. It also covers the physics of systems with high energy densities. Specific fields of interest include nuclear fusion, especially inertial confinement, magnetic confinement, diagnostics, material treatment, laboratory astrophysics, plasmas and spectroscopy at extreme conditions, physical properties of hot dense matter and intense particle beams and optical (laser) beams from the microwave to the X-ray region. The exploration of these fields and their new physics, including nonlinear and nonclassical phenomena, should find a forum in this journal.

As well as publishing original articles the journal also publishes occasional review articles, surveys of research at particular laboratories and reviews of recent books.

© Cambridge University Press 1989

Copying: This journal is registered with the Copyright Clearance Center, 27 Congress St., Salem, Mass. 01970. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the percopy fee of \$05.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 5/0263-0346/89/\$5.00 + 00.

ISI Tear Sheet Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorised to supply single copies of separate articles for private use only.

For all other use, permission must be sought from Cambridge or the American Branch of Cambridge University Press.

Subscriptions: *Laser and Particle Beams* (ISSN 0263-0346) is published quarterly. The subscription price (which includes postage) of volume 7, 1989 is £89 net UK, £99 elsewhere (US \$185 in USA and Canada). Single parts cost £28 net (US \$52 in USA and Canada) plus postage. Four parts form a volume. Orders, which must be accompanied by payment, may be sent to a bookseller, subscription agent or direct to the publishers: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU. Orders from the USA and Canada should be sent to Cambridge University Press, 32 East 57th Street, New York, NY 10022, USA. Copies of the journal for subscribers in the USA and Canada are sent by air to New York to arrive with minimum delay. Second class postage paid at New York, NY, and at additional mailing offices. POSTMASTER: send address changes in USA and Canada to *Laser and Particle Beams*, Cambridge University Press, 110 Midland Avenue, Port Chester, New York, NY 10573.