

JOURNAL OF
**PLASMA
PHYSICS**

journals.cambridge.org/pla

VOLUME 76 • PART 1 • FEBRUARY 2010

EDITOR

PROFESSOR PADMA KANT SHUKLA, *Institut für Theoretische Physik IV, Fakultät für Physik und Astronomie, Ruhr-Universität Bochum, D-44780 Bochum, Germany, ps@tp4.rub.de*

ASSOCIATE EDITORS

Professor ROBERT BINGHAM, *Space Science & Technology Department, Rutherford Appleton Laboratory, Chilton, Didcot, Oxfordshire, OX11 0QX, United Kingdom, r.bingham@rl.ac.uk*

Professor GERT BRODIN, *Department of Physics, Umeå University, S-90187 Umeå, Sweden, Gert.Brodin@physics.umu.se*

Professor NATHANIEL J FISCH, *Department of Astrophysical Sciences, Princeton Plasma Physics Laboratory, James Forrestal Campus, Princeton University, Princeton, NJ 08543, USA, fisch@princeton.edu*

Professor JOSE TITO MENDONÇA, *GoLP/Instituto Superior Tecnico, Department of Physics, University of Lisbon, 1049-001 Lisboa, Portugal, titomend@ist.utl.pt*

Dr John P Dougherty, Founding Editor, 1967–1994

Journal of Plasma Physics (ISSN 0022-3778) is published six times a year in February, April, June, August, October and December, by Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK and Cambridge University Press, 32 Avenue of the Americas, New York, N.Y. 10013-2473, USA.

Six parts form a volume. The subscription price (excluding VAT, but including postage) of Volume 76 (2010) is £972 (US \$1925 in the USA, Canada and Mexico) for institutions print and electronic, institutions electronic only £915/\$1640; £292 (US \$536) print only for individuals. All orders must be accompanied by payment.

EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number.

Japanese prices for institutions are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan. Prices include delivery by air.

Copies of the journal for subscribers in the USA, Canada and Mexico are sent by air to New York to arrive with minimum delay. Periodicals postage paid at New York, NY, and at additional mailing offices. *POSTMASTER*: send address changes in USA, Canada and Mexico to *Journal of Plasma Physics*, Cambridge University Press, 100 Brook Drive, West Nyack, New York 10994-2133.

Internet access This journal is included in the Cambridge Journals Online service, which can be found at journals.cambridge.org For further information on other Press titles, access <http://www.cambridge.org>

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the World's forests. Please see www.fsc.org for more information.

Printed in the United Kingdom, by the University Press, Cambridge

© Cambridge University Press 2010