

## AUTHORS — NOVEMBER 1994

### DIVERTOR SYSTEMS

#### A MECHANISM FOR THE GENERATION OF DOUBLE SOLUTIONS IN THE MODELING OF REACTOR EXHAUST, AND THE POSSIBILITY OF LOST SOLUTIONS / *E. S. Hotston*

**E. S. Hotston** (BSc, PhD, London, United Kingdom) has spent most of his professional life as a physicist in research and development within the power and energy industries at the Culham Laboratory. While at Culham, his interests included plasma diagnostics, the electric propulsion of spacecraft, the interaction of ions with solids, and the simulation of reactor exhaust. After retiring from Culham in 1992, his interests have included the examination of modeling techniques.



### EXPERIMENTAL DEVICES

#### ENERGY MEASUREMENT OF FAST IONS TRAPPED IN THE TOROIDAL FIELD RIPPLE OF TORE SUPRA / *Vincent Basiuk, Alain Bécoulet, Thierry Hutter, Gilles Martin, Annie-Laure Pecquet, Bernard Saoutic*

**Vincent Basiuk** (top right) (Doctorate, astrophysics and spatial techniques, Université de Paris VII, France, 1991) works in the Research and Controlled Fusion Department at Commissariat à l'Énergie (CEA). **Alain Bécoulet** (top left) (Doctorate, physics of fusion plasmas, Université de Paris XI, France, 1990) works in the Research and Controlled Fusion Department at CEA. He has worked on the DIII-D Tokamak, the Joint European Torus (JET), and the Tore Supra Tokamak. His interests include ion cyclotron resonance heating of the Tore Supra and ion cyclotron emission in plasmas, theory, and experiments. **Thierry Hutter** (center right) (graduate of Ecole Supérieure de Physique et Chimie Industrielle, Paris, France, 1980) is in charge of the fast neutrals analyzers of the Tore Supra Tokamak at Association Euratom-CEA. **Gilles Martin** (center left) (Doctorate, engineering, Ecole Polytechnique, France, 1985) has worked on the Tore Supra Tokamak on nuclear diagnostics. **Annie-Laure Pecquet** (bottom right) (Doctorate, Université de Paris VII, France) has worked at CEA since 1978. **Bernard Saoutic** (bottom left) (MS, University of Illinois, 1983) has worked on the Toroidal Fusion Reactor (TFR), JET, and the Tore Supra.



**INTERPRETATION OF SAWTOOTH-INDUCED CHANGES OF NEUTRON EMISSION IN JOINT EUROPEAN TORUS NEUTRAL BEAM INJECTION EXPERIMENTS** / *Dan Anderson, Ya. I. Kolesnichenko, Mietek Lisak, Fredrik Wising, Yu. V. Yakovenko*

**Dan Anderson** (top right) (PhD, Chalmers University of Technology, Sweden, 1973) has been with the Institute for Electromagnetic Field Theory at Chalmers University of Technology since 1973, where he has been engaged in fusion plasma research. His research interests also cover other applications of electromagnetic field theory, in particular nonlinear optical pulse propagation and microwave discharges. **Ya. I. Kolesnichenko** (top left) [DSc, physics, Kiev Institute for Nuclear Research of the Ukrainian SSR Academy of Sciences (KINR), USSR, 1978] is head of the Division of Theory on Future Nuclear Power Development of KINR. His current research interests include alpha-particle physics and current drive in tokamaks. **Mietek Lisak** (center right) (PhD, Chalmers University of Technology, Sweden, 1976) has been with the Institute for Electromagnetic Field Theory at Chalmers University of Technology since 1977, where he has been engaged in fusion plasma research. His research interests also cover other applications of electromagnetic field theory, particularly nonlinear optical pulse propagation and microwave discharges. **Fredrik Wising** (bottom left) (PhD, Chalmers University of Technology, Sweden, 1994) is a research scientist at the Massachusetts Institute of Technology Plasma Fusion Center. His research interests include the physics of fast ions and burning fusion plasmas. **Yu. V. Yakovenko** (bottom right) (DSc, automatic control, V. M. Glushkov Institute of Cybernetics of the Ukrainian SSR Academy of Sciences, USSR, 1984) is a scientist in the Division of Theory on Future Nuclear Power Development at KINR. His current research interests include alpha-particle transport in toroidal systems.



**VERTICAL DISPLACEMENTS AND POSITION CONTROL IN TOKAMAKS** / *Bo Lehnert*

**Bo Lehnert** (MS, electrical engineering, 1950, and PhD, magnetohydrodynamics, 1955, Royal Institute of Technology, Stockholm, Sweden) was head of the Fusion Research Unit of the Swedish Euratom Association from 1980 to 1991. His research interests are plasma physics and its applications to thermonuclear fusion and to cosmic physics.



**NEUTRON EMISSION STUDIES DURING THE ELECTROLYSIS OF DEUTERIUM BY USING BaCeO<sub>3</sub> SOLID ELECTROLYTE AND PALLADIUM ELECTRODES** / *Jacob Jorné*

**Jacob Jorné** (BS, 1963, and MS, 1967, Technion-Israel Institute of Technology; PhD, chemical engineering, University of California-Berkeley, 1972) is a professor of chemical engineering at the University of Rochester. His research interests include electrochemical engineering, semiconductor processing, energy conversion and storage, and the theoretical biology of ecosystems.

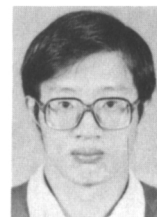


**CONVERSION OF TRITIUM GAS TO TRITIATED WATER BY CEMENT MATERIALS** / *Shigeo Numata, Yasuhiko Fujii, Makoto Okamoto*

**Shigeo Numata** (top) (M. Eng., Kyoto University, Japan, 1984; Dr. Eng., nuclear engineering, Tokyo Institute of Technology, Japan, 1990) is a researcher at the Shimizu Corporation, Institute of Technology. His current interest is material interactions and decontamination of tritium in buildings. **Yasuhiko Fujii** (center) (Dr. Eng., nuclear engineering, Tokyo Institute of Technology, Japan, 1973) is a professor at the Tokyo Institute of Technology. His current interest is in the area of fusion chemistry. **Makoto Okamoto** (bottom) (Dr. Eng., nuclear engineering, Tokyo Institute of Technology, Japan, 1966) is a professor in the Research Laboratory for Nuclear Reactors at the Tokyo Institute of Technology.

**CONFINEMENT CONSTRAINTS OF ELECTRON CYCLOTRON HEATING MODELS** / *Ren-Chu Chin, Shih-Hai Li*

**Ren-Chu Chin** (top) [MS, nuclear engineering, National Tsing-Hua University (NTHU), Taiwan, 1991] is currently a PhD student in the Department of Nuclear Engineering at NTHU. His research interests are plasma physics and controlled fusion theory, especially the energy confinement study in tokamak plasma. **Shih-Hai Li** (PhD, nuclear engineering, Purdue University, 1985) is a professor in the Department of Nuclear Engineering at NTHU and the president of the Radiation Protection Association of Taiwan. His research interests include fusion technology, advanced microwave source, and radioactive waste management.

**ANOMALOUS REACTIONS DURING ARCING BETWEEN CARBON RODS IN WATER** / *R. Sundaresan, John O'M. Bockris*

**R. Sundaresan** (top) (Bhabha Atomic Research Centre Training School, India, 1964; MSc, 1970, and PhD, 1975, University of Bombay, India) works in the areas of electroanalytical chemistry and polarography. **John O'M. Bockris** (BSc, 1945, and DSc, 1952, chemistry, University of London, United Kingdom) is a distinguished professor of chemistry at Texas A&M University. His research interests are in the areas of quantum electrochemistry, photoelectrochemistry, electrocatalysis, bioelectrochemistry, corrosion, and the splitting of water.



**VERIFICATION OF THE GEORGE OSHAWA EXPERIMENT FOR ANOMALOUS PRODUCTION OF IRON FROM CARBON ARC IN WATER / M. Singh, M. D. Saksena, V. S. Dixit, V. B. Kartha**

**M. Singh** (top right) (MSc, 1959, and PhD, 1968, physics, Agra University, India) specializes in high-resolution electronic spectroscopy of the transient species produced in various electrical discharges/chemiluminescence. His current interests include the identification and characterization of new electronic transitions, particularly those having potential for being developed into molecular lasers. **M. D. Saksena** (top left) (MSc, 1977, and PhD, 1985, physics, University of Bombay, India) specializes in high-resolution electronic spectral studies of simple molecules/radicals. He is especially interested in de-perturbation studies, laser induced/excited fluorescence, and hyperfine studies in diatomic spectra. **V. S. Dixit** (bottom right) (BSc, Bombay University, India, 1964) specializes in spectrochemical analysis, developed a number of spectrographic methods for the analysis of trace impurities in different matrices such as  $MgF_2$ ,  $Nb_2O_5$ ,  $CaO$ , and  $CaF_2$ . She is currently studying electronic spectra of simple molecules. **V. B. Kartha** (bottom left) (MSc, Kerala University, India, 1957; PhD, Bombay University, India, 1967) is currently a visiting scientist at the Massachusetts Institute of Technology George R. Harrison Spectroscopy Laboratory. His areas of interest are atomic and molecular spectroscopy with lasers, synchrotron radiation spectroscopy, and biomedical applications of laser spectroscopy.

