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**Plasma Engineering**

Chairman: L. J. Perkins (LLNL)

- 1336 Estimation of X-Ray and Neutrons Caused by Runaway Electrons in JT-60**, H. Aikawa, I. Yonekawa, H. Kaminaga (JAERI)
- 1341 The Edge Plasma and Divertor in TIBER**, W. L. Barr (LLNL)

- 1345 TIBER Engineering Test Reactor (ETR) Startup Scenarios**, *D. T. Blackfield, L. J. Perkins (LLNL)*
- 1349 Analysis of the Shell Effect on Plasma Equilibrium in RFX**, *W. Carrettin, F. Gnesotto, G. Marchiori, P. Sonato (Istituto Gas Ionizzati)*
- 1354 High Aspect Ratio D-<sup>3</sup>He Tokamak Reactors**, *B. Q. Deng, G. A. Emmert (U. Wisconsin)*
- 1358 MHD Power Generation Using Controlled Plasma of the Tokamak Fusion Reactor Divertor**, *K. Denno (NJIT)*
- 1362 Ignition in Near Term D-<sup>3</sup>He Tokamak Experiments**, *G. A. Emmert, B. Q. Deng (U. Wisconsin)*
- 1365 Impurity Control in Fusion Experimental Reactor (FER)**, *S. Hitoki, M. Sugihara, S. Yamamoto, N. Fujisawa (JAERI)*
- 1370 Plasma Startup and Control on The Tokamak de Varennes**, *J. Kalnavarns, Y. Demers, M. St-Onge (MPB Technologies), R. Annamraju, R. O. Butler (Canatom), G. W. Pacher (Institut de recherche d'Hydro), H. D. Pacher (INRS)*
- 1374 Galarkin Method for Coupling Analysis of Loop Array Antenna for Fast Wave Current Drive**, *S. Kinoshita, K. Yoshioka (Hitachi)*
- 1378 Magnetically Swept Open Divertor Concept**, *J. A. Leuer, J. C. Wesley (GA)*
- 1382 Initial Results of Systems Analysis of the ETR/ITER Design Space**, *Y-K. M. Peng, J. D. Galambos, R. L. Reid, D. J. Strickler, S. Kalsi, L. Deleanu (ORNL)*
- 1386 Edge-Plasma Analysis for the TITAN Reversed-Field-Pinch Reactor**, *A. K. Prinja, P. I. H. Cooke, E. L. Vold (UCLA)*
- 1390 Modeling and Transport Simulations of the Oscillating Field Current Drive in the Reversed Field Pinch**, *R. A. Scardovelli, G. H. Miley (U. Illinois), R. A. Nebel, K. A. Werley (Los Alamos)*
- 1394 Synchrotron Radiation Losses in ETRs**, *N. A. Uckan (ORNL)*
- 1398 Transport Simulations of Ohmic Ignition Experiment—IGNITEX**, *N. A. Uckan, H. C. Howe (ORNL)*
- 1402 Design Considerations of Modular Pump Limiters for Large Tokamaks**, *T. Uckan, C. C. Klepper, P. K. Mioduszewski (ORNL)*
- 1408 Potential Applications of High Temperature Superconducting Magnets to Fusion Engineering**, *E. L. Vold, J. P. Blanchard, P. I. H. Cooke, S. P. Grotz, C. E. Kessel, G. Tynan (UCLA)*
- 1414 Edge Plasmas and Plasma/Wall Interactions in an Ignition-Class Reversed Field Pinch**, *K. A. Werley, C. G. Bathke, R. A. Krakowski (Los Alamos)*
- 1419 Divertor Engineering Studies for a Double Null Demonstration Reactor Based on the NET Configuration**, *W. J. Worraker (Culham)*
- 1424 Poloidal Magnetics and Divertor Strike Point Control in the Compact Ignition Tokamak**, *D. J. Strickler, Y-K. M. Peng, R. O. Sayer (ORNL), S. C. Jardin (PPPL), A. M. Rotolante (U. Florida)*
- 1428 Physics Analysis of the TIBER-II Engineering Test Reactor**, *N. A. Uckan, W. A. Houlberg, S. E. Attenberger, R. A. Dory, D. A. Spong, J. S. Tolliver, J. Sheffield, (ORNL)*
- 1434 Systems Code Comparison of Internal and External PF Coil CITs**, *J. D. Galambos, D. J. Strickler, Y-K.M. Peng (ORNL)*
- 1438 Tiber II Parameters with Neutral Beams at High Energies**, *R. S. Devoto (LLNL), M. Fenstermacher (TRW), P. Papanikolaou (Purdue)*
- 1442 An Ohmic Heating Plasma Current Control Method**, *T. F. Yang, G. S. Luan (MIT)*
- 1446 Plasma Disruption Calculations for the TIBER-II Design**, *B. J. Merrill (EG&G), S. C. Jardin (PPPL)*
- 1451 Passive Stabilization Element Contours of Effectiveness for Distributed Current Plasmas**, *R. J. Thome, R. D. Pillsbury, Jr., W. R. Mann (MIT)*



- 1454 Disruption Control in Tokamak Reactors by Electron-Cyclotron Current Drive**, G. R. Smith, B. G. Logan (LLNL), A. H. Kritz (Hunter College), R. B. White (PPPL)
- 1457 TIBER Thermal Stability and Burn Control**, G. T. Sager, G. H. Miley (U. Illinois)
- 1461 Alpha Ash Effect and Control in TIBER II**, S. C. Hu, G. H. Miley (U. Illinois)

Session 38

**Experiment and Diagnostic Design**

Chairman: M. O. Calderon (LLNL)

- 1465 MTX Facility and Machine Grounding Plan**, H. H. Bell, B. W. Rice, D. E. Petersen, C. H. Herrera (LLNL)
- 1469 Engineering Aspects of ASDEX Upgrade**, M. Blaumoser (Max-Planck)
- 1473 Application of a Novel Measuring Procedure to Determine the Power Density in Targets for Neutral Beam Injection**, H. Bousack, C. N. Meixner (KfH Jülich)
- 1478 Design of a Far Infrared Interferometer Diagnostic Support Structure**, C. A. Brooksby, B. Rice (LLNL), W. A. Peebles (UCLA)
- 1483 The Neutral Beam Protection Plate Viewing System on JET**, D. Cooper, A. Stäbler, D. Stork (JET)
- 1488 Modularized Multichannel Far-Infrared Interferometer/Polarimeter on the TEXTOR Tokamak**, A. Cosler, E. Kemmereit, H. Soltwisch (KfH Jülich)
- 1492 Mechanical Design Considerations for CIT Diagnostics**, L. E. Dudek, J. Lowrance, K. Young, L. P. Ku (PPPL)
- 1496 The Heating and Cooling Systems of the RFX Vessel**, F. Elio, M. Fauri (Istituto Gas Ionizzati)
- 1500 High-Resolution Time-Resolved X-Ray Microscope for Inertial Confinement Fusion (ICF) Target Dynamics Experiments**, R. J. Ellis, D. J. Deane, J. D. Kilkenny, R. A. Levesque, D. W. Phillion (LLNL)
- 1504 A Compact, Multiple Fiber-Optic Bundle Viewing System**, R. G. Evanko (GA)
- 1508 Plasma Fluctuation Diagnostic Software**, J. Y. Hong, E. J. Powers, C. P. Ritz (Intelligent Signal Processing)
- 1512 Engineering Design and Construction of a Double Crystal Monochromator for Fusion Plasma Spectroscopy**, J. Keul, P. Abel (Pfeiffer)
- 1516 TFTR DT Plan Summary**, D. Kungl (PPPL)
- 1520 Radiation Shielding Aspects of the TFTR Diagnostics**, S. L. Liew, L. P. Ku (PPPL)
- 1524 MTX Plasma Diagnostics System**, B. W. Rice, E. B. Hooper, C. A. Brooksby (LLNL)
- 1528 TFTR Diagnostic Modifications Required for D-T Operation**, R. E. Rocco (Ebasco), L. E. Dudek (PPPL)
- 1532 The Ground-Fault Detection System for DIII-D**, J. T. Scoville, P. I. Petersen (GA)
- 1536 Data Bank System in JFT-2M Tokamak**, S. Takada (Mitsubishi), T. Matsuda, Y. Miura, M. Mori, T. Kawakami, T. Matoba (JAERI)
- 1540 Electrical Grounding, Shielding, and Isolation for RFX Experiment**, V. Toigo (Istituto Gas Ionizzati)
- 1544 Fusion Alpha Particle Diagnostics with Gyrotrons**, P. P. Woskov, D. R. Cohn, J. S. Machuzak, R. C. Myer (MIT)
- 1548 Engineering Challenges of the Plasma Diagnostics for CIT**, J. L. Lowrance, L. E. Dudek, K. Young, L. P. Ku (PPPL)
- 1551 Design of the Backscatter Spectroscopy System for the Nova Laser Facility**, G. L. Tietbohl, R. P. Drake, P. E. Young (LLNL)