

CONTENTS PART 2

REACTOR PROBLEMS

<u>U. Carretta et al.</u> Alpha-particles dynamics in a toroidal plasma close to ignition	G-1
<u>D. Anderson et al.</u> Alpha-particle ripple losses during slowing down in a tokamak reactor	G-2b
<u>V.Ya. Goloborodko et al.</u> Alpha-particle bootstrap current in a tokamak magnetic axis region	G-3
<u>B.G. Bespoludennov et al.</u> INTOR poloidal field configuration	G-4
<u>Yu. L. Igitkhanov et al.</u> D-T ignition in the tokamak-reactor with divertor	G-5
<u>V.A. Abramov et al.</u> Modelling of start-up in the INTOR	G-6
<u>T.F. Volkov et al.</u> Analytical study of the scrape-off layer and the plasma column periphery	G-7
<u>Yu. L. Igitkhanov et al.</u> Plasma effect on the gas conductance of a divertor channel	G-8
<u>N.N. Vasil'ev et al.</u> A feasibility of current profile control in a tokamak by fuel pellet injection	G-9
<u>A. V. Nedospasov et al.</u> Recycling effect on divertor plasma parameters	G-10
<u>F. Pegoraro et al.</u> Magnetic fluctuations. Their role in the confinement of high energy particles	G-11
<u>A. V. Komin et al.</u> Parameters optimization of energy hybrid tokamak reactor	G-12
<u>Yu. K. Kalmikov et al.</u> Parametric analysis of power plant based on laser fusion	G-13
<u>N. Sasaki et al.</u> Reactor aspect of a stellarator with a closed helical magnetic axis	G-14
<u>A. Sestero.</u> Proposed scenario for burn control in tokamak reactors	G-15
<u>B. Kühn.</u> The interaction of neutrons in the plasma of fusion reactors and the balance of nuclear fuel	G-16
<u>A.V. Basaeva et al.</u> The local hybrid divertor for tokamak	G-17

HEATING AND CURRENT DRIVE

<u>M.W. Alcock et al.</u> High power ECRH at the second harmonic in TOSCA	H-1
<u>G.M. Vorobiev et al.</u> The first compression experiments in TUMAN-3 tokamak	H-2a
<u>A.V. Grigoryev et al.</u> Heating of ions by magnetic compression of the plasma in TUMAN-3 tokamak	H-2b
<u>V.V. Alikaev et al.</u> The ECRH-experiments on the T-10 tokamak	H-3
<u>G. Bugmann et al.</u> Preliminary Alfvén wave experiments on the TCA tokamak	H-4
<u>S. Itoh et al.</u> Turbulent heating of well-confined plasma in the TRIAM-1 tokamak	H-5

- J. Datlov et al. Low-hybrid heating experiment on the TM-1-MN tokamak H-4
- A.W. Kolfshoten et al. Plasma heating by weak turbulence in TORTUR 11 H-4
- Yu. F. Baranov et al. Electron cyclotron heating in FT-1 tokamak above critical plasma density H-4
- I.A. Kovan et al. Numerical simulation of ion-cyclotron heating in $D_2 + ^3He^+$ mixture in tokamak H-4
- O.S. Boordo et al. Numerical calculations of plasma HF heating within the Alfvén frequency range in a tokamak H-1
- V.P. Bhatnagar et al. Analysis of the finite-length ICRH antenna H-1
- A.B. Kitsenko et al. Particle trapping under cyclotron resonance conditions H-1
- Yu. F. Baranov et al. Electron cyclotron heating of high density plasmas in large tokamaks H-1
- M. Bornatici et al. Absorption of a plasma of finite density around the electron-cyclotron harmonics H-1
- M.W. Alcock et al. Local heating and current drive investigations on TOSCA H-1
- D.F.H. Start et al. Observations of currents driven by RF waves at the ECR in the Culham levitron H-1
- V.V. Parail et al. Steady-state current generation by cyclotron waves in a tokamak H-1
- S. Takamura et al. Toroidal current drive by helical slow wave structure H-1
- A. G. Sveshnikov et al. Optimization of negative ion beam acceleration system considering interaction with residual gas H-1
- P. Massmann et al. Production of negative deuterium ion beams by means of negative surface ionization H-2
- V.M. Gribov et al. Numerical model for plasma heating by neutral injection in a high field tokamak with adiabatic compression H-2
- K. Ushigusa et al. Elimination of surface waves in lower hybrid wave heating H-2

IMPURITY CONTROL

- M. Shimada et al. Suppression of impurity influx, remote radiative cooling and helium ash compression with poloidal divertor in DOUBLET III J-1
- N.N. Brevnov et al. Fluxes of energy and particles in the T-12 tokamak with divertor J-2
- R.S. Ivanov et al. Nonambipolar plasma transfer in TV-1 tokamak scrape-off-layer J-3
- N.M. Zykova et al. Arcing studies in tokamak TV-1 J-4
- K. Jakubka et al. The influence of surface conditions on unipolar arcs in a tokamak J-5
- N.N. Vasiljev et al. The effect of particle recycling in a tokamak with high plasma density J-6
- V.M. Gribov et al. Plasma diffusion in systems with separator J-7

- S. V. Bazdenkov et al. Diffusion of impurities in the presence of external forces and anomalous processes in a tokamak plasma J-8
- A.A. Shishkin. Impurity flow reversal in tokamak with helical magnetic fields J-9
- D. Ashby et al. Impurity radiation from a plasma in diffusive equilibrium J-10
- D. G. Baratov et al. Experimental study of limiter erosion mechanism in the materials test H-3M tokamak facility J-11
- D. Hildenbrandt et al. Analysis of a graphite limiter after operation in T-10 J-12
- V. M. Chicherov et al. Time resolved measurements of the impurities flux in the limiter shadow of the T-10 tokamak J-13

WAVE-PLASMA INTERACTION

- E. Lazzaro et al. Full-wave propagator analysis for the X-mode at 2 K-1
- K. Itoh. Propagation of kinetic Alfvén wave in cylindrical tokamak K-2
- A.V. Timofeev. Evolution of the unstable Alfvén oscillations in the inhomogeneous magnetic field K-3
- M.M. Skoric. The magneto-parametric instabilities K-4
- S.J. Karttunen et al. Particle trapping in stimulated Brillouin and Raman scattering K-5
- M. Sugawa et al. Nonlinear interaction between ion beams and electrostatic cyclotron waves in an ion beam-plasma system K-6
- V. Stefan. Nonresonant parametric interaction of a high-frequency, non-monochromatic driver pump with magnetized plasma K-7
- V. Stefan. Nonlinear dissipation of parametrically driven Bernstein modes in plasma upon the action of non-monochromatic driver pump K-8
- D. Farina et al. Electron cyclotron absorption for a two-temperature electron distribution K-9
- G.M. Batanov et al. Electron heating observation near the lower hybrid resonance - with unduced l-s scattering K-10
- H. Persson. Magnetic compression, non-adiabatic particle notion and intrinsic stochasticity K-11
- D.R. Nicholson et al. Cubic Langmuir turbulence K-12
- V.V. Chechkin et al. Spatially-time evolution of fast magnetosonic waves of high amplitude K-13
- K. Baumgartel et al. Long-time SBS oscillations in plasmas with supersonic flow K-14
- N.E. Andreev et al. Resonance absorption of a strong EM wave at supersonic plasma flow K-15
- K. Baumgartel et al. Raman back-scattering in an inhomogeneous plasma K-16

COMPACT TORI AND TOROIDAL PINCHES

<u>A.G. Es'kov</u> et al. Efficiency and physics of collisionless plasma heating by shock compression in a closed trap "compact torus"	L-1
<u>P.G. Carolan</u> et al. Initial results from the HBTXIA reversed field pinch experiment	L-2
<u>D.A. Baker</u> et al. Initial reversed-field pinck experiments on ZT-40M with a metallic vacuum liner	L-3
<u>A.G. Es'kov</u> et al. EXperiments in the "Tor-Liner" device	L-5
<u>A.G. Kaligin</u> et al. Compact torus: MHD stability and inner structure in the process of powergul compression	L-6
<u>J.W. Edenstrasser</u> et al. Finite- β minimum energy equilibria in the SPICA screw pinch	L-7
<u>L.J. Barrow</u> et al. The influence of a helical field on the start-up and sustainment of a reverse field pinch	L-8
<u>A.F.G van der Meer</u> et al. The influence of impurities on the discharge behaviour in SPICA	L-9
<u>V. Erckmann</u> et al. Confinement and magnetoacoustic heating of a low density belt-pinch plasma	L-10
<u>T.C. Hender</u> et al. The nonlinear "g" mode	L-11
<u>K. Watanabe</u> et al. CTCC-1 experiment. CT plasma collision and compression	L-12
<u>V.V. Belicov</u> et al. Numerical simulation of the compact toroid evolution towards the equilibrium state	L-13
<u>E.H.A. Granneman</u> et al. A study of the equilibrium and decay of compact toroids generated by a magnetized co-axial plasma gun	L-14
<u>S. Okada</u> et al. Experimental studies on FRC plasma	L-15
<u>J.W. Edenstrasser</u> et al. Finite beta minimum energy equilibria of ETA-BETA II RFPs	L-16

RELATIVISTIC PLASMA ELECTRONICS

<u>N.I. Zaitsev</u> et al. Experimental study of the influence of cathode and collector plasma dynamics on the microwave generator with a REB	M-1
<u>N.S. Ginzburg</u> et al. Automodulation and stochastic oscillation regimes in resonant relativistic electron masers	M-2
<u>V.L. Bratman</u> et al. Relativistic plasma generators with effective radiation output	M-3
<u>M.I. Fuchs</u> et al. States of the thin-walled beam of relativistic electrons in limited channels	M-4