PROGRAM of FIRST INTERNATIONAL TOKI CONFERENCE on PLASMA PHYSICS and CONTROLLED NUCLEAR FUSION

NEXT GENERATION EXPERIMENTS

December 4(Monday)-7(Thursday), 1989
Tokishi Bunka Plaza, Toki City, Japan

Monday, December 4, 1989

Session I **Next Generation Experiments**

Present Status of Large Helical Device Project
O. Motojima (NIFS)
Status of the Wendelstein VII-X Project
G. Grieger (Max Planck Inst.)

Overview of the ATF-II Studies
J. F. Lyon (ORNL)
Review of the TJ-II Flexible Heliac Project
A. P. Navarro (CIEMAT)
The ANU Heliac Program
R. L. Dewar (ANU)
Design of the Compact Auburn Torsatron
R. Gandy (Auburn Univ.)

Tuesday, December 5, 1989

Session II **MHD**

Optimization of Helias
J. Nuhrenberg (Max Planck Inst.)
Second Stability Studies in a Helical Axis Device:TJ-II
C. Alejaldre (CIEMAT)
3D Equilibrium of Helical System: Magnetic Islands and Their Control
T. Hayashi (NIFS)
Resistive MHD Stability Studies for ATF Plasmas during Operation in the Second Stability Regime
L. A. Charlton (ORNL)

Session III **Transport**

Drift Optimization of Helical Systems
K. Hanatani (PPL, Kyoto Univ.)
Plasma Transport in Advanced Stellarators
H. Wobig (Max Planck Inst.)

Session IV **Special Topics**

Recent Experiments in JT-60
H. Kishimoto (JAERI)
Graphites as Plasma Facing Material of a Large Fusion Device
T. Hino (Hokkaido Univ.)
The Main Fusion Activities in Institute of Plasma Physics, Academia Sinica
Wang Shao-hu (ASIPP)

Session V **Edge Physics and Confinement Improvement**

Analysis of Scrape off Layer in Toroidal Helical Systems
K. Nagasaki (PPL, Kyoto Univ.)
Detached Plasma and Density Limit of Tokamaks
S. Yoshikawa (PPPL)
Confinement Improvement by Edge Control
N. Ohyabu (NIFS)
Effects of Perturbing Helical Fields on Confinement of Heliotron DR Plasma
S. Morimoto (NIFS)

Wednesday, December 6, 1989

Session VI On-going Experiments

Status of the ATF Experimental Program
M. Murakami (ORNL)

Plasma Transport in Advanced Stellarators
H. Ringler (Max Planck Inst.)

Present status of the Torsatron/Stellarator Program at the University of Wisconsin
J. L. Shohet (Univ. of Wisconsin)

Review of Heliotron E Experiment
T. Obiki (PPL, Kyoto Univ.)

Review of CHS Experiment
K. Matsuoka (NIFS)

Experimental Studies of a Helical Axis Stellarator (TU-Heliac)
H. Watanabe (Tohoku Univ.)

Session VII Poster Session

1 Diverted Particle-Flux Studies in the IMS and Proto-Cleo Stellarators
J. L. Shohet (Univ. of Wisconsin)

2 Pressure and Potential Measurements in IMS During Electron Cyclotron Heating
J. N. Talmadge (Univ. of Wisconsin)

3 Numerical and Experimental Studies of Simulated Toroidicity Effects in a Linear High-Beta Heliac
B. A. Nelson (Univ. of Washington)

4 Theory of Electron Cyclotron Heating in the Flexible Heliac TJ-II
C. Alejaldre (CIEMAT)

5 STORM : A Low Aspect Ratio Torsatron for Plasma Stability Studies
A. P. Navarro (CIEMAT)

6 Dissipative Trapped Electron Modes in ℓ=2 Torsatrons
B. A. Carreras, J. F. Lyon (ORNL)

7 Low-n Stability Calculations for Three Dimensional Stellarator Configurations
L. Garcia (Universidad Complutense)

8 Destruction of Magnetic Surfaces in Helical Torus
J. Todoroki (NIFS)

9 Ripple Diffusion and Bootstrap Current in Large Helical Device
T. Amano (NIFS)

10 Numerical Analysis of Temporal Development of RF-Heated Plasma
T. Watanabe (NIFS)

11 Island Studies for Helias Configurations
P. Merkel (Max Planck Inst.)

12 On Strong RF Plasma Turbulence
M. M. Skoric (Boris Kidric Inst.)

13 Structural Design of Large Helical Device
M. Shibui (Toshiba Corp.)

14 R&Ds of Forced Flow Superconducting Coil for Large Helical Device
S. Tsuruga (Toshiba Corp.)

15 Pool-Cooled Superconducting Magnet Design of Large Helical Device
S. Suzuki (Hitachi Ltd.)

16 Behavior of Vacuum Vessel Eddy Current in Large Helical Device
H. Fukumoto (Hitachi Ltd.)

17 Fundamental Design on Large Helical Device with Bath Cooling Method
S. Tado (Mitsubishi Fusion Center)

18 A Compact Helical Device for a Superconducting Large Helical Coil
Y. Tsuda (Mitsubishi Electric Co.)

19 Optimization of Design Parameters for Large Helical Device
K. Yamazaki (NIFS)

20 Effect of Multi-Layer Operation of Helical Coil in Large Helical Device
M. Asao (Kobe Steel Ltd.)

21 ECH System in the Large Helical Device
K. Ohkubo (NIFS)

22 ICRF Heating Program in the Large Helical Device
T. Mutoh (NIFS)

23 Motion of Charged Particle in Helical Systems
M. P. Srivastava (Delhi Univ.)

24 Equilibrium, Stability and Transport in ℓ=1 Compact Helical Axis Configuration
H. Kikuchi (NIHON Univ.)

25 Electron Cyclotron Emission Measurements on ATF
R. F. Gandy (Auburn Univ.)

26 Confinement Studies of Heliotron E Plasmas in Magnetic Surface Variation Experiments
F. Sano (PPL, Kyoto Univ.)

27 Profile Measurements in Magnetic Surface Variation Experiments/ Multi Pellet Injection Experiments
S. Sudo (PPL, Kyoto Univ.)

28 Impurity Behavior in Heliotron E
K. Kondo (PPL, Kyoto Univ.)

29 Edge Plasma Study in Heliotron E
H. Matsuura (Univ. of Osaka Pref.)

30 Recent Diamagnetic Measurement of Heliotron E Toroidal Coil Experiments
S. Besshou (PPL, Kyoto Univ.)

31 Study of Resistive Interchange Modes in Heliotron E
H. Zushi (PPL, Kyoto Univ.)

32 Measurement of Magnetic Fluctuations in Heliotron E

M. Harada (PPL, Kyoto Univ.)

33 Transport Analysis of ECH and NBI Plasmas in CHS
H. Yamada (NIFS)

34 Effect of Magnetic Axis Shift on CHS Plasma Characteristics
S. Okamura (NIFS)

35 A Study of Radiation Collapse in CHS Plasmas
S. Morita (NIFS)

36 Ion Temperature and Poloidal Rotation Profile Measurements in CHS
K. Ida (NIFS)

37 Driven Currents in Neutral Beam Heated CHS Plasma
O. Kaneko (NIFS)

38 Power Deposition during ECH in CHS
S. Kubo (NIFS)

Thursday, December 7, 1989

Session VIII Engineering

Engineering Design of Large Helical Device
J. Yamamoto (NIFS)

Operation Scenario and Structural Design Analysis of LHD (Large Helical Device) Coils
K. Yamazaki (NIFS)

Engineering Design of Vacuum Vessel
N. Ohyabu (NIFS)

Development of Superconductor for Large Helical Device
T. Mito (NIFS)

Overview of Engineering Design of Wendelstein VII-X
J. Sapper (Max Planck Inst.)

100GHz Half Megawatt Microwave Transmission System Development Whispering Gallery Mode
M. Sato (PPL, Kyoto Univ.)

NBI System with Negative Ion Source in Large Helical Device
Y. Takeiri (NIFS)