

## ISC-11 & ITC-8 Program

(session PL; Plenary Lecture)

**PL** Highlights in Early Stellarator Research T. Stix

(session KN; Key-note Lecture)

**KN-1** Physics of Helical Confinement System A. Iiyoshi

**KN-2** Implications of Recent Tokamak Research for Other Approaches to Toroidal Confinement R.J. Goldston

(session OE; Overview of Experiment)

**OE-1** The Programme on W7-AS and Recent Results M.Kick

**OE-2** Profile Control Studies on Heliotron-E T.Obiki, F.Sano, K.Kondo et al.

**OE-3** Overview of CHS Experiments K.Matsuoka, S.Okamura, S.Kubo et al.

**OE-4** First Experimental Results in TJ-II Flexible Helicac The TJ-II Team  
presented by C.Alejaldre

**OE-5** H-mode Studies in the H-1 Helicac J.H.Harris for the H-1 Team

**OE-6** Review of L-2M Experiments S.E.Grebenshchikov and L-2M Team

**OE-7** The Development of the ICRF Plasma Production Scenarios in  
the URAGAN-3/URAGAN-3M Torsatrons V.V.Plyusnin, N.I.Nazarov,  
E.D.Volkov et al.

**OE-8** Goals and Status of HSX: A Helicacally Symmetric Stellarator  
D.T.Anderson, A.F.Almagri, F.S.B.Anderson et al.

**OE-9** The Wendelstein 7-X Project G.Grieger and the W7-X Team

**OE-10** Overview of LHD Project M.Fujiwara, O.Motojima, Y. Hamada et al.

(session OT; Overview of Theory)

**OT-1** Stellarator Configurations A.H.Boozer

**OT-2** Beta Studies in Quasi-Symmetric Configurations J.Nuehrenberg

**OT-3** Space-Axis Stellarators V.D.Shafranov

**OT-4** MHD Physics on LHD N.Nakajima

(session MT; MHD and Transport)

**MT-1** The Role of Magnetic Shear in the Confinement of W7-AS Plasmas  
R.Brakel,  
W7-AS Team, ECRH-Group et al.

**MT-2** Electric Field Bifurcation and Electric Pulsation in CHS Plasmas  
A. Fujisawa, H.Iguchi, H.Idei et al.

**MT-3** Physics of Collapses in Toroidal Helical Plasmas K.Itoh, S.-I. Itoh,  
A.Fukuyama et al.

**MT-4** Application of the Soft X-ray Tomography Analyses in Heliotron-  
E Plasmas M.Hosotsubo, H.Zushi, M.Wakatani et al.

**MT-5** On the Radial Structure of Fluctuations and Turbulent Induced  
Flows C.Hidalgo, M.A.Pedrosa, B.van Milligen et al.

**MT-6** Core Fluctuations and Non-Thermal Electron Distributions in  
W7-AS H.J.Hartfuss, M.Haese, W.Pernreiter et al.

**MT-7** Transport Analysis in Low-Collisionality W7-AS Plasmas  
H. Maassberg, U.Gasparino, S.Murakami et al.

**MT-8** Discrete and Continuum Ballooning Modes in a Stellarator  
P.Cuthbert, J.L.V.Lewandowski, R.L.Dewar et al.

**MT-9** Selfconsistent Determination of the Ambipolar Electric Field and  
Longitudinal Plasma Velocity in Nonsymmetric Toroidal Magnetic  
Confinement Systems L.M.Kovrizhnykh

**MT-10** Plasma Equilibrium and Rotation in Stellarators H.Wobig,  
J.Kisslinger

(session HE; Heating )

**HE-1** ECH Launching Conditions in Helical System K.Nagasaki, A.Ejiri, T.Mizuuchi et al.

**HE-2** High Power EC and NB Heating Experiments in CHS, S.Kubo, M.Osakabe, H.Idei et al.

**HE-3** Suprathermal Electron Effects on ECRH Deposition Profile and Ambipolarity Flux in W7-AS S.Murakami, U.Gasparino, H.Maassberg et al.

**NR-3** MHH2 Experiment Design Studies G.Sheffield, M.C. Zarnstorff and the PPPL Stellarator Study Group

**NR-4** Design and Stability of a Toroidally Symmetric Stellarator P.R.Garabedian, R.F.Gandy, S.F.Knowlton et al.

**NR-5** Conceptual Design of a Quasi-Axisymmetric Stellarator (CHS-qa) S. Okamura, K.Matsuoka, M.Fujiwara et al.

**NR-6** The New Helical Plasma Device at IAE, Kyoto University F.Sano, T.Obiki, N.Inoue et al.

**NR-7** Wide-Scope Studies of LHD-Type Helical Reactors K.Yamazaki, K.Y.Watanabe, T.Amano et al.

**NR-8** Physics and Engineering Studies of a Helias Reactor C.D.Beidler, G.Grieger, E.Harmeyer et al.

(session LW; Topics of LHD/W7-X)

**LW-1** Research Plan for Studying Confinement in the LHD Plasma S.Sudo, O.Kaneko, N.Nakajima et al.

**LW-2** Research Plan for Long-Pulse/Steady-State Experiments in LHD N.Noda, A.Sagara, H.Sugama et al.

**LW-3** LHD Divertor Experimental Scenario N.Ohyabu, A.Komori, H.Suzuki et al.

**LW-4** Technical Challenges of the WENDELSTEIN 7-X Stellarator M.Wanner, V.Erckmann, J.Sapper et al.

**LW-5** Divertor Development for Wendelstein 7-X H.Renner, J.Kisslinger, E.Strumberger et al.

(session NR; New Configuration and Reactor Design)

**NR-1** Toroidally Symmetric Stellarators P.R.Garabedian

**NR-2** J\* Optimization of Small Aspect Ratio Stellarator/Tokamak Hybrid (SMARTH) Devices S.P.Hirshman, D.B.Batchelor, D.A.Spong et al.

## Poster Session

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**P1-1** Magnetic Surface Mapping Experiments in TJ-II Helicac E. Ascasibar, J.Qin and A.L.Fraguas

**P1-2** Manipulation of Magnetic Islands in a Helicac Vacuum Field S.R.Hudson and R.L.Dewar

**P1-3** Studies of Magnetic Surface Control and Electron Orbit Loss in Heliotron DR S.Morimoto, K.Matsushita, S.Niwa et al.

**P1-4** Statistical Analysis of the Helical Magnetic Fields H.Matsuura, N.Ariyoshi and M.Numano

**P1-5** The Recent Experimental Results in the TU-Helicac S.Kitajima, M.Takayama, Y.Nosaka et al.

**P1-6** Overview on the Radial Electric Field, Plasma Rotation and Transport in the Stellarator W7-AS J.Baldzuhn, M.Kick, H. Maassberg et al.

**P1-7** Density Control Problems in Large Stellarators with Neoclassical Transport H.Maassberg, C.D.Beidler and E.E. Simmet

**P1-8** Analysis of Type I and Type III ELMS in ASDEX Upgrade with Microwave Reflectometry M.Manso, F.Serra, I.Nunes et al.

**P1-9** High Ion Temperature Mode in CHS Heliotron /Torsatron Plasmas K.Ida, S.Nishimura, M.Osakabe et al.

**P1-10** Effects of Radial Potential-Profile Control on Low-Frequency Fluctuations in an ECR-Produced Plasma M. Yoshinuma, K.Hattori, A.Ando et al.

**P1-11** Plasma Relaxation into States Other than Force Free B.Dasgupta, P.Dasgupta, M.S.Janaki et al.

**P1-12** Effect of Turbulent Dynamo on Bootstrap Current in Helical Device A.A. Kabantsev

**P1-13** Alfvén Instabilities in Wendelstein 7-AS A.Weller, M.Anton, J.Geiger et al.

**P1-14** The Evaluation of Path Integral Effect on the Local Potential Fluctuation Measurement in the CHS HIBP  
S.Lee, H.Iguchi, A.Fujisawa et al.

**P1-15** Experiment of Stability Operation Region and MHD Instability Observation on HT-7 HT-7 Group presented  
by Q.Zhao

**P1-16** Experimental Studies of the Period Doubling Transition to Chaos in a Plasma L.Ma, Y.Wang and L.Wang

**P1-17** Plasma Radiation with Local Impurity Injection into a Magnetic Island of W7-AS Stellarator  
D.Hildebrandt, R.Brakel, A.Elsner et al.

**P1-18** Density Limit Study on the W7-AS Stellarator P.Grigull, L.Giannone, U.Stroth et al.

**P1-19** Low Radiation Collapses in Stellarator Plasmas M.A.Ochando and F.Castejon

**P1-20** Influence of Experimental Conditions on Divertor Plasma Flows in Heliotron E V.Voitsenya, V.Chechkin,  
T.Mizuuchi et al.

**P1-21** Observation of Plasma Response after Impurity Pellet Injection with Hydrocarbon, Aluminum and Iron  
Spheres in CHS Y.Shirai, S.Morita, M.Goto et al.

**P1-22** Heat and Particle Flows in the Divertor Plasma Channel in the SHC Boundary Configuration T.Morisaki,  
N.Ohyabu, A.Komori et al.

**P1-23** Electron Cyclotron Heating beyond the Cutoff Density by O-X-B Mode Conversion in W7-AS H.P.Laqua, V.  
Ereckmann and W7-AS Team

**P1-24** Effect of Additional Neutral Beam Heating on High Ion Temperature Mode in CHS Heliotron/Torsatron  
Plasmas M.Osakabe, S.Kubo, K.Ida et al.

**P1-25** Study of Fast Wave Heating Experiment in LHD by Code Calculation T.Seki, T.Watari, T.Mutoh et al.

**P1-26** Excitation of Lower Hybrid Drift Wave in a Plasma with Dust Particles M.Bose

**P1-27** The Quasi-Optical ECRH Transmission System on HL-1M S.W.Xue, Y.Liu, Y.Yuan et al.

**P1-28** Diagnostic Systems for the TJ-II Flexible Heliac J.Sanchez, P.Acedo, E.Ascasibar et al.

**P1-29** Diagnostic Development for the H-1 Heliac J.Howard and H-1 NF Team.

**P1-30** New Results from Heavy Ion Beam Diagnostic on CHS H.Iguchi, A.Fujisawa, S.Lee et al.

**P1-31** Fast Ion Physics from Neutral Particle Analysis on the Large Helical Device J.F.Lyon

**P1-32** Experimental Study of Fast Ion Confinement in CHS M.Isobe, M.Sasao, S.Okamura et al.

**P1-33** Density Fluctuations in Peaked and Flat Density Profiles in Heliotron E Measured Using CO2 Laser Phase  
Contrast Method S.Kado, K.Muraoka, K.Kondo et al.

**P1-34** Bolometer Studies in CHS B.J.Peterson, S.Sudo and the CHS Group

**P1-35** Role of Magnetic Measurements for LHD Equilibrium Database S.Sakakibara, H.Yamada, K.Y.Watanabe et al.

**P1-36** Numerical Estimates on Electron Density Measurement of SINP-Tokamak Plasmas S.K.Saha and R.Ray

**P1-37** Single Channel HCN Laser Interferometer for Electron Density Measurement M.Ghorannevis,  
M.A.M.Kashani and A.Anvari

**P1-38** The Mass Resolving Neutral Particle Energy Analyzer on HT-7 Tokamak S.Liu

**P1-39** Works Preparatory to Long-Pulse/Steady-State Experiments in LHD N.Noda, M.Sato, T.Shimozuma et al.

**P1-40** Design of LHD Helical Divertor Plates R.Sakamoto, N.Noda, Y.Kubota et al.

**P1-41** Design for Steady State Operation of LHD Diagnostics Control System H.Nakanishi and LABCOM Group

**P1-42** New Repetitive Pellet Injectors for Steady State Fuelling I.Viniar, S.Sudo, S.Skoblikov et al.

**P1-43** Steady State Particle Balance for SST S.Jaishankar, M.Warrier, S.Deshpande et al.

**P1-44** Study of Plasma Facing Components Materials Response on Plasma High Heat Flux Load V.N.Litunovsky,  
I.B.Ovchinnikov and V.A.Titov

**P1-45** Coil Design and Equilibrium Studies for a Quasi-Axially Symmetric Tokamak M.Drevlak

**P1-46** Physics Design of a Quasi-Axisymmetric Stellarator A.Reiman and the PPPL Stellarator Study Group

**P1-47** Physical Property of Plasmas in the L=1 Heliotron Y.Nakamura, M.Wakatani, M.Yokoyama et al.

**P1-48** Basic Study for Innovative Concepts of Stellarator Configurations M.Yokoyama, N.Nakajima and  
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**P1-49** The Exploration for New Concepts of Quasi-Symmetric Stellarators/Heliotrons M.Yokoyama, N.Nakajima  
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**P1-50** Analytical Theory of Flux Coordinates for Stellarators V.D.Pustovitov

**P1-51** Reduced MHD Equations Based on Averaging Method K.Ichiguchi

**P1-52** Ideal and Resistive Stability of the TJ-II Heliac Device L.Garcia, R.Sanchez and J.A. Jimenez

**P1-53** Stellarator Transport Simulation Using Delta-F Monte Carlo Algorithms K.Hanatani

**P1-54** Improvement of Particle Confinement in an L=2 Helical Heliac K.Yoshii, S.Kogoshi, J.Maeda et al.

**P1-55** Analytical Calculations of Rotational Transform Angles in the Uran-3M Torsatron with Taking into  
Account the Plasma Pressure Yu.K.Kuznetsov, I.B.Pinos and V.I.Tyupa

**P1-56** Alpha-Particle Confinement in l=3 Reactor Sized Helical System with the Small Aspect Ratio O.Motojima,  
A.Sagara, O.A.Shishkin et al.

**P1-57** Three-Dimensional Simulation Study of Spheromak Injection into Helical Plasmas Y.Suzuki, T.Watanabe,  
A.Kageyama et al.

**P1-58** Analytical Global Model for Helical System T.Watanabe and H.Akao

**P1-59** Natural Shaping of Spherical Tokamak Plasma F.Z.Li, J.H.Zhang, Q.D.Gao et al.

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**P2-1** Mapping the Vacuum Magnetic Surfaces in Helical H1 Using Techniques in Tomography R.B.Tumlos,  
B.Blackwell and J.Howard

**P2-2** Electron Transport in the Stellarator Diode G.G.Lesnyakov and E.D.Volkov

**P2-3** Particle Orbit Analysis and Magnetic Surface Measurement Planning for LHD M.Shoji, K.Yamazaki,  
K.Matsushita et al.

**P2-4** Structure of the Edge Magnetic Field in the l=1 Helical Axis Heliotron M.Nakasuga, T.Mizuuchi, Y.  
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**P2-5** Evaluation of Disturbed Magnetic Surfaces with Fractal Dimensions S.Mishimagi, S.Kogoshi and J.Maeda

**P2-6** Characterizing and Feedback Control of the Fluctuations along the Helical Magnetic Field Line near the  
Outermost Flux Surface K.Zhai, Y.Wen, C.Yu et al.

**P2-7** Ambipolar Radial Electric Fields and Confinement in the H-1 Heliac S.A.Dettrick, H.J.Gardner and R.L.Dewar

**P2-8** Effect of Radial Electric Field on Negative Energy Perturbations in a Straight Stellarator S.Sen, D.Pfirsch and  
G.N.Throumoulopoulos

**P2-9** Ion Temperature and Flow during Confinement Transitions in the H-1 Heliac J.Howard

**P2-10** The New Results of the Energy Confinement Degradation on Stellarator O.I.Fedyanin, D.K.Akulina,  
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**P2-11** Transport Analysis of High Ion Temperature Mode in CHS Heliotron/Torsatron Plasmas T.Minami, K.Ida,  
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**P2-12** Density Profiles and Particle Transport of High Ion Temperature Mode in CHS Plasmas K.Tanaka, K.Ida,  
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**P2-13** Impurity Transport Investigations at W7-AS R.Burhenn, M.Anton, J.Baldzuhn et al.

**P2-14** Recent Observations of MHD Instabilities on W7-AS M.Anton, R.Jaenicke, A.Weller et al.

**P2-15** Effect of Bursting MHD Activities on Energetic Ion Transport in CHS K.Toi, M.Takechi, S.Ohdachi et al.

**P2-16** Study of Alfvén Eigenmodes in the NBI Heated Plasmas of the CHS Heliotron/Torsatron M.Takechi, K.Toi,  
S.Ohdachi et al.

**P2-17** MHD and Microinstabilities on Torus System and Helical Fields M.Ghorannevis, A.Abaspour and  
M.Masnavi

**P2-18** Dynamic Stabilization of Disruption Precursors J.Mao, M.Wang and Y.Pan

**P2-19** Impurity Investigations by Means of Li Beam Induced Charge Exchange Spectroscopy on W7-AS S.Fiedler,  
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**P2-20** Statistical Properties of Edge Plasma Turbulence in L-2M Stellarator N.N.Skvortsova, G.M.Batanov,  
O.I.Fedyanin et al.

**P2-21** Study of Edge Plasma Perturbations Induced by Sawtooth Crash on CHS K.Ohkuni, K.Toi, S.Ohdachi et al.

**P2-22** Electric Currents in the Divertor Plasma of Heliotron E V.Chechkin, V.Voitsenya, S.Masuzaki et al.

**P2-23** In-Situ Surface Modification by ECH Plasma in Heliotron E T.Mizuuchi, N.Fujita, K.Nishimura et al.

**P2-24** Numerical Study of Influence of Edge Plasma Behavior on Core Plasma Transport in LHD H.Funaba,  
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**P2-25** Study of the Plasma Properties under an LID Configuration in the CHS S.Masuzaki, A.Komori, T.Morisaki et  
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**P2-26** Relativistic Transport Theory of Absorption and Current Drive by Electron-Cyclotron Waves D.P.Khan and  
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**P2-27** Combined Experiment of ICRH and LHCD on HT-6M Tokamak X.K.Yang, Z.S.Wang, J.G.Li et al.

**P2-28** Numerical Analysis of Small Movable ICRF Antenna Loading Resistance in Heliotron -E H.Okada, T.Kotani,  
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**P2-29** Development and Fabrication of Folded Waveguide Antenna for the Large Helical Device R.Kumazawa,  
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**P2-30** Development and Fabrication of Steady State Fast Wave Antenna for LHD T.Mutoh, R.Kumazawa, T.Seki et  
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**P2-31** A Time-of-Flight Analyzer of Low Energy Atoms for Experiment in the SINP-Tokamak N.R.Ray, S.S.Sil,  
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**P2-32**  $\alpha$ -Particle Density Profile and Energy Profile in D-T Fusion Plasma X.Z.Li, Z.Y.Chen, S.X.Zheng et al.

**P2-33** X-ray Measurements of the Electron Temperature in ECRH Experiments in the L-2M Stellarator  
A.I.Meshcheryakov, S.E.Grebenshchikov, S.V.Shechetov et al.

- P2-34** Kinetic Effects on Electron Cyclotron Emission during Modulated ECRH in TJ-IU E. de la Luna and V.Krivenski
- P2-35** Measurements of Escaping Fast Ions in CHS D.S.Darrow, T.Kondo, M.Isobe et al.
- P2-36** Apparent Wave Length Shifts of H-like Ions Caused by the Spectral Fine Structure Observed in CHS Plasmas S.Nishimura, K.Ida and CHS Group
- P2-37** MSE Spectroscopy in CHS Heliotron/Torsatron S.Takayama, K.Ida, S.Kado et al.
- P2-38** Development of a Pulsed Radar Reflectometer for CHS Plasmas R.Pavlichenko, A.Ejjiri, K.Kawahata et al.
- P2-39** Ion Reflection for New Diagnostic Method of Ion Energy Distribution in Edge Plasma Y.Hasegawa, S.Masuzaki, N.Noda et al.
- P2-40** LID Design for LHD A.Komori, N.Ohyabu, H.Suzuki et al.
- P2-41** Experimental Study of Membrane Pump for Plasma Devices H.Suzuki, N.Ohyabu, Y.Nakamura et al.
- P2-42** Planning of Steady-State NBI Heating Experiments in LHD Y.Takeiri, O.Kaneko, Y.Oka et al.
- P2-43** HT-7 Superconducting Tokamak-an Experimental Fusion Device for Investigation of Long Pulse Steady State Operation in China HT-7 Group presented by Y.He
- P2-44** Ignition Access in the FFHR D-T Helical Reactor O.Mitarai, A.Sagara and O.Motojima
- P2-45** Design and Construction of HSX: A Helically Symmetric Stellarator A.F.Almagri, D.T.Anderson, F.S.B.Anderson et al.
- P2-46** Role of Bumpy Field for Improvement of Collisionless Particle Confinement in Helical Axis Heliotrons M.Yokoyama, N.Nakajima, M.Okamoto et al.
- P2-47** Calculation of the Magnetic Field and Electron Trajectories in System of the Drakon Type V.V.Kondakov, S.F.Perelygin, V.M.Smirnov et al.
- P2-48** Complete Integral Suppression of Pfirsch-Schluter Current in the Inward-Shifted Stellarator Plasma on Heliotron -E S.Besshou, V.D.Pustovitov, N.Fujita et al.
- P2-49** Evaluation of Plasma Pressure Profile from Magnetic Measurements in Stellarators V.D.Pustovitov
- P2-50** Peculiarities of Stellarator Plasma Equilibrium and Stability S.V.Shchepetov and A.B.Kuznetsov
- P2-51** Bounce Averaged Velocity of Trapped Particle Drift in Toroidal Helical Systems V.V.Nemov
- P2-52** Magnetic Islands and Drift Resonances in Helias Configurations A.A.Shishkin, I.N.Sidorenko and H.Wobig
- P2-53** Self-Healing of Magnetic Islands in a Heliac S.S.Lloyd, H.J.Gardner, T.Hayashi et al.
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- P2-55** Generalized Magnetic Coordinates M.Kurata and J.Todoroki
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- P2-58** Nonlinear Drift Orbit Mappings in Helical Systems T.Yamagishi
- P2-59** Important Role of Effective Toroidal Curvature in L=1 Torsatron M.Aizawa, H.Yamazaki, K.H.Saito et al.
- P2-60** Plasma Parameter Characterization of a DC Multicusp Plasma Chamber Operating in He, Ar and Xe Gas P.Suanpoot, T.Vilaithong, M.W.Rhodes et al.