13th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating

May 17-20, 2004,
Institute of Applied Physics of the Russian Academy of Sciences, Nizhny Novgorod, Russia

EC-13 PROGRAMME

May 17, Monday

9:30-10:00	Opening
10:00-10:30	E. Westerhof. OPEN QUESTIONS IN ELECTRON CYCLOTRON WAVE THEORY
10:30-11:00	Coffee-break
	Theory and experiments on ECRH and ECCD (1)
11.00-11:30	H. Zohm. CONCEPT OF ECRH/ECCD FOR ITER
11:30-12:00	T. Suzuki. INVESTIGATION OF EC CURRENT DRIVE IN A HIGH ELECTRON TEMPERATURE PLASMA IN JT-60U
12:00-12:20	G. Giruzzi. EXPERIMENTS WITH COMBINED ELECTRON CYCLOTRON AND LOWER HYBRID WAVES ON TORE SUPRA
12:20-12-40	F. Leuterer. ECRH POWER DEPOSITION IN ASDEX UPGRADE
12:40-14:30	Lunch
	Millimeter wave technologies for ECE and ECRH (1)
14:30-15:00	W. Kasparek. HIGH POWER CW TRANSMISSION LINES AND LAUNCHERS
15:00-15:20	A.G.A. Verhoeven. DESIGN OF THE MM-WAVE SYSTEM OF THE ITER ECRH UPPER LAUNCHER
15:20-15:40	O. Dumbrajs. OHMIC LOSSES IN COAXIAL GYROTRON CAVITIES WITH CORRUGATED INSERT
15:40-16:00	R. Heidinger. DESIGN AND ANALYSIS OF WINDOWS AND STRUCTRAL COMPONENTS FOR THE ITER ECRH UPPER PORT PLUG
16:00-16:30	Coffee-break
	Theory and experiments on ECE
16:30-17:00	E. de la Luna. RECENT DEVELOPMENTS OF ECE DIAGNOSTICS AT JET
17:00-17:20	M. Sato. RELATIVISTIC DOWNSHIFT FREQUENCY EFFECTS ON ELECTRON CYCLOTRON EMISSION MEASUREMENT – MEASUREMENTS OF ELECTRON DENSITY IN TOKAMAK AND ELECTRON TEMPERATURE IN LHD
17:20-17:40	M. van de Pol. 2-D ECE IMAGING MEASUREMENTS ON TEXTOR
17:40-18:00	

May 18, Tuesday

Millimeter wave sources (1)

9:00-9:30 G. Denisov. TENDENCIES IN THE DEVELOPMENT OF HIGH-POWER LONG PULSE GYROTRONS

9:30-9:50 M. Thumm. DESIGN OF A 170 GHz, 4 MW COAXIAL SUPER GYROTRON WITH DUAL-BEAM OUTPUT

9:50-10:10 G. Dammertz. PROGRESS IN THE DEVELOPMENT OF 1-MW, CW GYROTRONS FOR THE STELLARATOR W7-X

10:10-10:30 B. Piosczyk. DEVELOPMENT OF ADVANCED HIGH POWER GYROTRONS FOR ECH&CD APPLICATIONS IN FUSION PLASMAS

10:30-11:00 Coffee-break

Theory and experiments on ECRH and ECCD (2)

11:00-11:30 V. Shevchenko. PROSPECTS OF EBW EMISSION DIAGNOSTICS AND EBW HEATING IN SPHERICAL TOKAMAKS

11:30-11:50 A. Y. Popov. PROPAGATION AND DAMPING OF ELECTRON BERNSTEIN WAVES TRAVELLING FROM THE HIGH FIELD SIDE IN TOKAMAK PLASMAS

11:50-12:10 A. Y. Popov. ON ABSENCE OF RELATIVISTIC DAMPING OF ELECTRON BERNSTEIN WAVES IN TOKAMAK PLASMAS

12:10-12:30 F. Castejón. EFFECT OF TJ-II COMPLEXITY ON EFFICIENCY OF ELECTRON BERNSTEIN WAVE HEATING

12:30-14:30 Lunch

Theory and experiments on ECRH and ECCD (3)

14:30-15:00 C. Petty. LOCAL MEASUREMENTS OF CURRENT-DRIVE BY ELECTRON CYCLOTRON WAVES

15:00-15:20 A. Krämer-Flecken. INVESTIGATION OF DED INDUCED MHD ACTIVITY WITH THE UPGRADED ECE DIAGNOSTIC AT TEXTOR

15:20-15:40 G. Arnoux. ABSORPTION PROPERTIES OF X3 TOP-LAUNCH ECH ON TCV

15:40-16:00 K. M. Likin. EC HEATING BY X-WAVE IN THE HSX STELLARATOR

16:00-16:30 Coffee-break

16:30-18:00 Poster session 1

May 19, Wednesday

Millimeter wave sources (2)

9:00-9:20	M. Blank. DEVELOPMENT OF LONG-PULSE, MEGAWATT-CLASS GYROTRON OSCILLATORS AT 110 AND 140 GHZ
9:20-9:40	E.A.Solujanova. TEST RESULTS OF THE 84GHZ/200KW/CW GYROTRON
9:40-10:00	J.-P. Hogge. DEVELOPMENT OF A 2 MW, CW, 170 GHZ COAXIAL CAVITY GYROTRONS FOR ITER
10:00-10:20	S.V.Usachev. DEVELOPMENT OF 170 GHZ/1MW/CW GYROTRON FOR ITER
10:20-10:40	V.E.Zapevalov. LOW FREQUENCY GYROTRONS FOR FUSION
10:40-11:00	Coffee-break
11:00-12:30	Poster session 2
12:30-14:30	Lunch
14:30-18:00	Excursion
19:00	Banquet

May 20, Thursday

Theory and experiments on ECRH and ECCD (4)

9:00-9:30	S. Kubo. RECENT UPGRADE OF ECRH SYSTEM AND RESULTS OF THE HIGH POWER/LONG PULSE INJECTION IN THE LHD
9:30:9:50	T.C. Luce. STABILIZATION OF m=2/n=1 TEARING MODES BY ELECTRON CYCLOTRON CURRENT DRIVE IN THE DIII–D TOKAMAK
9:50-10:10	E. Westerhof. LONG-PULSE OPERATION OF THE NEW 800 KW, 140 GHZ GYROTRON ON TEXTOR
10:10-10:30	M. Ponomarjov. ACCELERATION OF ELECTRONS POPULATIONS BY CROSSING EC WAVES IN AN EXTERNAL MAGNETIC FIELD
10:30-11:00	Coffee-break

Millimeter wave technologies for ECE and ECRH (2)

11:00-11:20	Y.A. Gorelov. STATUS OF ECH SYSTEM ON DIII-D
11:20-11:40	M. Thumm. HIGHLY EFFCIENT QUASI-OPTICAL MODE CONVERTER SYSTEM FOR A 1 MW, 140 GHZ, CW GYROTRON
11:40-12:00	G. Gantenbein. HIGH-POWER TESTS OF A REMOTE STEERING LAUNCHER MOCK-UP AT 140 GHZ
12:00-12:20	B. Plaum. CHARACTERISTICS OF OPTIMIZED DIPLEXERS BASED ON THE SPATIAL AND ANGULAR TALBOT EFFECTS

12:20-14:30 Lunch

Millimeter wave technologies for ECE and ECRH (3)

14:30-14:50 D.Wagner. STATUS OF THE NEW ECRH SYSTEM FOR ASDEX UPGRADE

14:50-15:10 H. Idei. REMOTE STEERING ANTENNA SYSTEM AND ITS APPLICATION TO ECH/ECCD EXPERIMENTS IN THE TRIAM-1M TOKAMAK

15:10-15:30 K. Kajiwara.RF POWER MEASUREMENTS ON THE DIII-D GYROTRON INSTALLATION

15:30-16:00 Coffee-break

16:00-18:00 Closing discussion

Poster session 1 (13 posters)

Theory and experiments on propagation and absorption of EC waves

1. F. Albajar. ELECTRON CYCLOTRON RADIATION STUDIES USING THE ASTRA TRANSPORT CODE COUPLED WITH THE CYTRAN ROUTINE.
2. M. A. Erukhimova. TO THE THEORY OF CYCLOTRON MASER WITHOUT INVERSION (THE CYCLOTRON INSTABILITY IN THE NONRESONANT ELECTRON MEDIUM)
3. E. D. Gospodchikov. PECULIARITIES OF LONGITUDINAL PROPAGATION OF MICROWAVE WITH FREQUENCY NEAR THE ELECTRON CYCLOTRON FREQUENCY IN MAGNETIZED PLASMA
4. A. D. Gurchenko. ENHANCED DOPPLER EFFECT IN THE UPPER HYBRID RESONANCE MICROWAVE BACKSCATTERING EXPERIMENT (OBSERVATIONS AT FT-2 TOKAMAK AND APPLICATION FOR PLASMA ROTATION DIAGNOSTIC)
5. A. Yu. Kryachko. THEORETICAL STUDY OF UNDULATOR INDUCED TRANSPARENCY IN MAGNETOACTIVE PLASMA
6. A.Yu. Kryachko. EFFECT OF ELECTROMAGNETICALLY INDUCED TRANSPARENCY FOR THE PROBE WAVE AT UPPER-HYBRID RESONANCE
7. A. P. Smirnov. RAY-TRACING CALCULATIONS OF ELECTRON CYCLOTRON WAVE PROPAGATION THROUGH RESONANCE REGIONS

Theory and experiments on ECE

1. I. G. J. Classen. ECE CORRELATION MEASUREMENTS OF TEMPERATURE FLUCTUATIONS NEAR Q=1
2. V. O. Girka. NONLINEAR THEORY OF AN ANNULAR ELECTRON BEAM AND EIGEN FLUTE MODES INTERACTION NEAR BY ELECTRON CYCLOTRON FREQUENCY
3. R. W. Harvey. ELECTRON CYCLOTRON HEATING, CURRENT DRIVE, AND EMISSION APPLICATIONS OF THE GENRAY RAY TRACING CODE
4. N. B. Marushchenko. ON NON-LOCAL EFFECTS OF ECE MEASUREMENTS AT W7-AS

Poster session 2 (15 posters)

Theory and experiments on ECRH and ECCD

1. F. Albajar. ELECTRON CYCLOTRON RADIATIVE TRANSFER IN THE PRESENCE OF POLARISATION SCRAMBLING IN WALL REFLECTIONS
2. M. V. Maslov. REDUCED PLASMA TRANSPORT IN THE CORE OF THE T-10 AND TEXTOR PLASMAS AFTER OFF-AXIS ECRH SWITCH-OFF
3. S. Nowak. ASTIGMATIC GAUSSIAN BEAMS IN PLASMAS
4. S. Nowak. ITER-ECRF TOP LAUNCHER OPTIMISATION STUDIES
5. R. Prater. CALCULATION OF ELECTRON CYCLOTRON CURRENT DRIVE FOR ITER
6. V. F. Shevchenko. EBW CURENT DRIVE START-UP SCENARIO FOR MAST
7. F. Volpe. FOKKER-PLANCK MODELLING OF ECCD FOR NTM STABILISATION IN ITER
8. H. Zohm. THE ITER ECRH UPPER LAUNCHER – PHYSICS GOALS AND DESIGN REQUIREMENTS
9. A. Fernández. ELECTRON BERNSTEIN WAVE HEATING FOR THE TJ-II STELLARATOR
10. V. G. Zorin MULTIPLE IONIZATION OF METAL IONS BY ECR HEATING OF ELECTRONS IN VACUUM ARC PLASMAS

Millimeter wave technologies for ECE and ECRH

1. G. Berger-By. POLARIZATION MEASUREMENT IN THE 118 GHz TRANSMITER OF TS
2. G. Michel. SYNTHESIS OF YETI-FOOTPRINT-MIRRORS WITH LOW STRAY RADIATION
3. J. L. Ségui. UPGRADED ECE RADIOMETER ON THE TORE SUPRA TOKAMAK
4. E. Westerhof. GENERIC METHOD FOR CONTROLLED ECRH/ECCD LOCALISATION
5. A. Zorenko. SOLID-STATE HETERODYNE INTERFEROMETER WITH OPERATING FREQUENCY OF 280 GHZ

Millimeter wave sources

1. C. Darbos. NEW DESIGN OF THE GYROTRON USED FOR ECRH EXPERIMENTS ON TORE SUPRA
2. L. Kolik. MODULATION OF MICROWAVE BY INFLUENCE OF WEAK REFLECTED POWER