

INTERNATIONAL CONFERENCE ON
BURNING PLASMA DIAGNOSTICS

Villa Monastero, Varenna, Italy
September 24 - 28, 2007

Monday, 24 September

08:45 *Welcome & Introduction*
Session Tutorial 1
Fusion plasmas and measurements of fundamental quantities
Chairman: F Orsitto
09:00 T. Donne
09:30 A. Fasoli
10:00 M Walsh

10.30 Coffee

Session Tutorial 1.1
Basic1
Chairman: J Sanchez
11:00 E de la Luna
11.30 D Brower
12.00 M Bitter

12.30 Lunch

Session Tutorial 1.2.
Basic2
Chairman: E Marmor
14.30 M von Hellermann
15.00 A Krasilnikov

Special Session on *Experience on JET and TFTR*
15.30 P Stott
16.00 K Young

16.30 - 18.00 **Posters A + Coffee**

18.00 – 19.00 Special Session on
International Fusion Programme and Organization: D Campbell, M Kikuchi;
Chairman: A Costley

21.30 *Welcome Reception (Royal Victoria Hotel)*

Diagnosics challenges for burning plasma experiments

Poster Session A Monday 24 september 16.30-18.00

Alonso Arturo	Fast Visible Camera Installation and Operation in JET	A-1
Barrera Laura	Comparison of inboard-outboard pedestal temperature measurements in JET Using ECE diagnostics	A-2
Bertschinger Guenter	Measurements of He-like Argon on TEXTOR, a Benchmark Experiment for the ITER X-Ray Spectrometer	A-3
Bombarda Francesca	Magnetic and X-ray diagnostics for plasma position measurements in the ignition experiments Ignitor	A-4
Botrugno Antonio	MHD activity in FTU discharges with a Liquid Lithium Limiter	A-5
Brandi Fernando	A compact high speed high sensitivity second harmonic interferometer for electron density measurements	A-6
Mazzotta Cristina	Models comparison for JET polarimeter data	A-7
Giudicotti Leonardo	Study of fast, near-infrared photodetectors for the ITER Core LIDAR Thomson Scattering	A-8
Ishikawa Masao	Development of Fast Measurement System of Neutron Emission Profile using a Digital Signal Processing Technique in JT-60U	A-9
Jaspers Roger	CXRS system for ITER and the CXRS-pilot experiment on TEXTOR	A-10
Kaschuk Yuri	Divertor Neutron Flux Monitor: Conceptual Design and Calibration	A-11
Figini Lorenzo	SPECE: a code for Electron Cyclotron Emission in tokamaks	A-12
Medvedev Alexander	ITER H-ALPHA SPECTROSCOPY DIAGNOSTIC SYSTEM	A-13
Peruzzo Simone	Development and Testing of in-Vessel Equilibrium Pick-up Coils for ITER	A-14
Scarabosio Andrea	Behaviour of ASDEX pressure gauge at high neutral pressure and application for ITER	A-15
Sjöstrand Henrik	Fusion power measurement using a combined neutron spectrometer- camera system at ITER	A-16
Sugie Tatsuo	Spectroscopic Measurement System for ITER Divertor Plasma: Impurity Influx Monitor (divertor)	A-17
Tabares Francisco	Critical Assessment of Pressure Gauges for ITER	A-18
Tonegawa Akira	Omegatron mass spectrometer in a hydrogen/deuterium detached plasma	A-19
Zimbal Andreas	COMPACT NEUTRON SPECTROMETERS AND THEIR PERFORMANCE UNDER FUSION-RELEVANT CONDITIONS	A-20

Tuesday, 25 September

Session Tutorial 2

ITER experiment : requirement on diagnostics

Chairman: A Costley

09.00 S Chiochio

09.30 D Campbell

10.00 A Costley

10.30 Coffee

Session Tutorial 2

ITER Technology and Integration

Chairman:C Walker

11.00 A Kaye

11.30 C Walker

12.00 C Gordon

12.30 Lunch

Session Diagnostic Review 1

Fusion Products and fast particles I

Chairman: M Sasao

14.30 R Boivin

15.00 T Nishitani

15.30 S Popovichev

16.00 V Kiptily

16.30 End

16.30 - 18.00 **Poster Session B** + *Coffee*

18.00-19.00 Special Session on DEMO: D Maisonnier, W Morris *Chairman: F Orsitto*

Poster Session B Tuesday 25 September 2007 16.30-18.00

Marocco Daniele	The ITER Radial Neutron Camera Detection System	B-1
Ericsson Goeran	Prospects for High Resolution Neutron Spectroscopy on high power fusion devices in view of the recent diagnostic developments at JET	B-2
Ray Fisher	Alpha Particle Knock-On Measurements Using Neutron Activation*	B-3
Gatu Johnson Maria	The TOFOR Neutron Spectrometer For High-Performance Measurements of D Plasma Fuel Ion Properties	B-4
Giovannozzi Edmondo	Dust measurement with Thomson Scattering in FTU	B-6
Gnesin Silvano	Design of a thomographic hard X-ray spectrometer for suprathreshold electron studies with ECRH	B-7
Holcomb Christopher	An Overview Of The Motional Stark Effect Diagnostic On DIII-D And Design Work For An ITER MSE	B-8
Korsholm Soeren Bang	Fast ion collective Thomson scattering diagnostic for ITER - progress of design	B-9
Mazon Didier	Real-Time Profile Control for Advanced Tokamak Operation	B-10
Mukhin Eugene	Perspectives Of Use The Metallic Mirrors With Transparent Protective Layer To Reduce The Influence Of Sputtering And Carbon Pollution In ITER	B-11
Nielsen Stefan K	Fast ion behaviour in TEXTOR measured by collective Thomson scattering (CTS)	B-12
Tanaka Nozomi	Development of an Energetic He ⁰ Diagnostic Beam for Confined Alpha Particle Measurement	B-13
Ozaki Tetsuo	Helium measurements simulating alpha-particle diagnostics by the pellet charge exchange in Large Helical Device	B-14
Reichle Roger	Concept and development of instruments for ITER thermography	B-16
Roenby Johan	Numerical study of ICRH and NBI fast ion effects on the ITER CTS diagnostic capabilities	B17
Schoepf Klaus	Modeling of g-ray and neutral particle diagnostics for fast ion examination in tokamaks	B-18
Soare Sorin	Upgrade of the JET Gamma-Ray Cameras	B-19
Umstadter K R	Absorbption spectroscopy detection of gases produced by chemical erosion of carbon surfaces in tokamak	B-20

Wednesday, 26 September

Session Diagnostic Review2: Fast particles II :
Alfven modes, alpha particles, other fast ions and electrons

Chairman: A Krasilnikov

09.00 M Van Zeeland

09.25 H Bindslev

09.50 C Sozzi

10.10 Afanasiev

10.30 Coffee

Session Diagnostic Review3:

Environmental effects I

Chairman:C Ingesson

11.00 E Hodgson

11.30 K Vukolov

12.00 S Rosanvallon

12:30 Group Photo & Lunch

Session Tutorial4: Boundary diagnostics

Plasma edge and wall I

Chairman: G Vayakis

14:45 (...in memory)

14.30 R Pitts

15.45 P Andrew

16.15 V Voitsenya

16.45 Coffee

18.00 Buses depart for Conference Dinner

Thursday, 27 September

Session Diagnostic Review4

Plasma wall II

Divertor diagnostics

Chairman : G Vayakis

09.00 A Herrmann

Session environmental effects II

Erosion/deposition and dust

Chairman: C Ingesson

09.30 Gauthier

10.00 R Reichle

10.30 Coffee

Session Tutorial5

Plasma Control

Chairman: E Lazzaro

11.00 Crisanti/Albanese

11.40 E Manso

12.00 Marashek

12.20 T Eich

12.40-14.30 Lunch

14.30 D Pacella

Session Diagnostic Review5

New approach to Burning Plasma Diagnostics

Chairman : R Boivin

15.00 J Howard

15.30 H Hartfuss

16.00 Kawahata

16.30 Koide

17.00 -18.30 **Posters C + Coffee**

21.30 Concert in Villa Monastero

Poster Session C Thursday 27 September 2007 17.00-18.30

Andersson Sunden Erik	Evaluation of spectral unfolding techniques for neutron spectroscopy	C-1
Coelho Rui	Real-time magnetic field pitch angle estimation with a motional stark effect diagnostic using Kalman Filtering	C-2
D'Antona Gabriele	Algorithms for the control of NTM by localized ECRH	C-3
Feldman Uri	A suite of diagnostic narrow band imaging telescopes for studying the plasma properties of 10-30 KeV ITER plasmas	C-4
Vega Jesus	Structural pattern recognition techniques for data retrieval in Fusion massive databases	C-5
Kálvin Sándor	Performance analysis of ITER tomographic systems	C-6
Lee Sang Gon	Advanced X-ray Imaging Crystal Spectrometer for Magnetic Fusion Tokamak Devices*	C-7
Madeira Teresa	High throughput pulse height analysis diagnostic for hot burning plasmas	C-8
Okada Koichi	Measurements of DT and DD components in neutron spectrum with a double crystals time of flight spectrometer	C-9
Pablant Novimir	Measurements Of The Internal Magnetic Field On DIII-D Using Intensity And Spacing Of The Motional Stark Multiplet	C-10
Pacella Danilo	Development of a soft-X ray detector for energy resolved imaging by means of a Gas Pixel Detector with highly integrated microelectronics as readout plane	C-11
Seely John	X-Ray Imaging Spectrometer for Recording Calibrated Time-Resolved K-Shell Spectra from Magnetically Confined Fusion Plasmas	C-12
Serianni Gianluigi	Diagnostic system for ITER Neutral beam injector	C-13
Thomas Dan	Prospects For Achieving ITER DNB Performance Requirements Using CLPS Positive Ion Source Technology	C-14
Vagliasindi Guido	Cellular Neural Network for real time image processing	C-15
Vukolov Konstantin	ISSUES AND OPTIONS FOR MIRRORS OF CXRS AND H-ALPHA ITER DIAGNOSTICS	C-16
Zerbini Marco	The interferometer as an optical mixer :a novel approach to FAR Infrared Spectroscopy	C-17
Zimbal Andreas	BAYESIAN AND MAXIMUM ENTROPY METHODS OF DATA ANALYSIS FOR FUSION NEUTRON DIAGNOSTICS WITH COMPACT SPECTROMETERS	C-18
Zoita Vasile	Neutron measurements at JET by means of superheated fluid detectors	C-19
Sasao Mamiko	Study of escaping Alpha particle orbits for detection designs	C-20

Friday, 28 September

Session Tutorial7

Advanced data analysis

Chairman: H Weisen

09.00 A Murari

09.45 A Dinklage

10.30 Coffee

Session Tutorial 5

Equilibrium reconstruction

Chairman: E Lazzaro

11.00 J Blum

Session Summary

Chairman: A. Costley

11.45 Summary of the meeting

M Sasao

P Andrew

A Krasilnikov

A. Costley

R Boivin

K Vukolov

C Ingesson

12.40 Discussion

The meeting will end at 13.00