Second Announcement of the

2nd IAEA TECHNICAL COMMITTEE MEETING ON CONTROL, DATA ACQUISITION AND REMOTE PARTICIPATION ON FUSION RESEARCH

Lisboa, Portugal, 19 - 21 July 1999

1 - Introduction

The International Atomic Energy Agency (IAEA) and "Instituto Superior Técnico" (IST) on behalf of the Association EURATOM/IST, with the collaboration of the "International Energy Agency", will organize the "2nd IAEA Technical Committee Meeting on Control, Data Acquisition and Remote Participation on Fusion Research", hereinafter referred to as the Meeting.

The Meeting will take place at "Anfiteatro do Complexo Interdisciplinar do Instituto Superior Técnico" in Lisboa. It will begin at 9.00 a.m. on Monday July 19th and end at 4.00 p.m. on Wednesday July 21st 1999.

The main objective of the Meeting is to present and discuss new developments and perspectives in the areas of control, data acquisition and remote participation for fusion research around the world.

2 - List of Topics

The Meeting will cover the following topics:

- Machine control and monitoring
- Plasma control
- Control and data acquisition systems for diagnostics
- Special techniques for long duration discharges
- Signal processing
- Data base techniques for information storage and/or retrieval
- User interfaces to control and data acquisition systems
- Impact of new computer languages
- Operating system requirements for present and future fusion experiments
- Techniques for remote participation in fusion experiments

3 - Programme of the Meeting

The Meeting will include:

- Contributed papers, which will be presented orally or displayed as posters
- Panels for discussion of specific matters

The oral talks will last 15 minutes plus 5 minutes for discussion. The total available space for each poster is 180 cm (width) by 120 cm (height).

Time	19 July	Time	20 July	Time	21 July
9.00	Opening Session	9.00	O16 + O17 + O18	9.00	O19 + O20 +O21 O22
9.20	O1 + O2 + O3	10.00	Coffee Break		
10.20	Coffee Break	10.20	Posters	10.40	Coffee Break
10.40	O4 + O5 + O6			11.00	O23 + O24 + O25 O26 + O27
11.40	Programme Committee				
12.30	LUNCH	12.30	LUNCH	12.40	LUNCH
14.00	O7 + O8 + O9 O10	14.00	Social Programme	14.00	PANEL
15.20	Coffee Break			15.50	Closing Session
15.40	O11 + O12 + O13 O14 + O15				

Session 1 – Control and Monitoring

O1 – Automatic setting of machine control with physics operation parameters

D. Zasche, G. Neu, G. Raupp, W. Treutterer, T. Zehetbauer and ASDEX Upgrade Team

O2 – Control and plasma data acquisition system for LHD experiment

S. Yamaguchi, M. Shoji, M. Emoto, J. Kariya, H. Okumura, Y. Teramachi, K. Tamura and LHD Data Processing Group

O3 – Remodeling of JT-60 discharge control system

I. Yonekawa, T. Totsuka, H. Akasaka, M. Sueoka, S. Takano and K. Kurihara

O4 – New developments for the control and data acquisition system of the reflectometry on ASDEX-Upgrade

V. Grossmann, J. Santos, P. Varela, M. Tavares, M. Manso

O5 – A distributed real-time system for event-driven control and dynamic data acquisition on a fusion plasma experiment

J. Sousa, A. Combo, A. Batista, D. Trotman, J. Waterhouse and C.A.F. Varandas

O6 – Plasma control at JET

M. Lennholm, T. Budd, F. Milani, F. Sartori, A. Goodyear, M. Gadeberg and R. Felton

Session 2 – Data Handling and Processing

O7 – WWW interfaces for runtime relational database applications

J.A. Stillerman, T.W. Fredian, M. Greenwald

O8 – Data management in the TJ-II multilayer database

J. Vega, C. Crémy, E. Sánchez, A. Portas, J.A. Fábregas, R. Herrera

O9 – The MDSplus data system

T.W. Fredian and J.A. Stillerman

O10 – The DIII-D computing environment: characteristics and recent changes

B.B. McHarg

O11 – One trial of combination of heterogeneous computer systems in NIFS

M. Emoto, K. Watanabe, S. Ohdachi, S. Matsunami, S. Yamaguchi, H. Okumura, LMS Group, LABCOM Group and S. Sudo

O12 – Data analysis software tools for enhanced collaboration at the DIII-D national fusion facility

J. Schachter, Q. Peng and D.P. Schissel

O13 – Status of JT-60 data processing system

T. Matsuda, T. Tsugita, T. Oshima, S. Sakata, M. Sato, M. Koiwa and T. Aoyagi

O14 – Enhanced computational infraestructure for data analysis at the DIII-D national fusion facility

D.P. Schissel, Q. Peng, J. Schachter, T. Terpstra, B. Meyer, T.A. Casper and R. Jong

O15 – Novel data processing tools to localize turbulence and MHD activity from broadband reflectometry on ASDEX Upgrade

P. Varela and M. Manso

Session 3 – Data Acquisition

O16 – The acquisition system for TORE SUPRA 1000s discharges

B. Guillerminet, **J. How** and the Tore-Supra Team

O17 – The Java interface of MDSplus: towards an unified approach for local and remote data access

G. Manduchi, C. Taliercio and A. Lucheta

O18 – Recent developments in the ASDEX Upgrade data acquisition environment

K. Behler, H. Blank, A. Buhler, R. Drube, K. Förster, R. Merkel, G. Raupp, H. Reuter, M. Zilker and the ASDEX Upgrade Team

O19 – Overview of LHD diagnostics and data acquisition systems

S. Sudo and Diagnostics Group

O20 – The MAST data acquisition system – system architecture

J. Waterhouse and S.J. Manhood

O21 – HL–1M data acquisition system upgrading

G. Ye

O22 – High speed data acquisition with the Solaris and Linux operating systems

M. Zilker

Session 4 – Remote Participation

O23 – Remote acess to JET data and computers

K. Blackler

O24 – Support and development for remote collaborations in fusion research

T.A. Casper

O25 – JET computer infrastructure for remote collaboration

J. Farthing

O26 – Upgrading a TEXTOR data acquisition system for remote participation using Java and Corba

M. Korten, B. Becks, H. Blom, P. Busch, G. Kemmerling, W. Kooijman, J.G. Krom, C.T.A.M. de Laat, W. Lourens, E. van der Meer, B. Nideröst, A.A.M. Oomens, F. Wijnoltz and U. Samm

O27 – Technical preparations for remote participation at JET

V. Schmidt and L. Villard

Posters

P1 – A neural network approach to evaluate density profiles from reflectometry in ASDEX Upgrade discharges with internal transport barriers.

J. Santos and M. Manso

P2 – ASDEX Upgrade MHD equilibria reconstruction on distributed workstations

W. Schneider, P. McCarthy, K. Lackner, O. Gruber, K. Behler, P. Martin and R. Merkel

P3 – MR-AFS: a global hierarchical file system

H. Reuter

P4 – The interface amplifier and timing generator unit for control of operation of a X-ray spectrometer

J. Sousa, A. Palmeirinha, B. Duval, C.A.F. Varandas, M. Cunha and P. Amorim

P5 – The new timing system of the tokamak TORE SUPRA

D. Moulin, B. Couturier, L. Ducobu, M. Le Luyer, G. Martin, P. Paster and F. Saint Laurent

P6 – The control and data acquisition system of a laser in-vessel viewing system

C. Correia, R. Pereira, N. Cruz, C. Neri, M. Riva, and C.A.F. Varandas

P7 – TCAqs data acquisition system

A.N. Fagundes, W.P. Sá and P. Coelho

P8 – The control and data acquisition system of the TJ-II heavy ion beam diagnostic

P. Coelho, M. Cunha, J. Sousa, C.A.F. Varandas and S. Khrebtov

P9 – The MAST data acquisition system – distributed implementation

S.J. Manhood, I. Jenkins and J. Waterhouse

P10 – Object-oriented data handling and OODB operation of LHD mass data acquisition system

H. Nakanishi, M. Emoto, M. Kojima, M. Ohsuma, S. Komada and LABCOM Group

P11 – Improvement of diamagnetic loop measurements in stellarators using digital signal processing techniques

H. Laqua and F. Schneider

P12 – Real time processor in JT-60 data acquisition system

S. Sakata, M. Koiwa, T. Aoyagi, T. Matsuda

P13 – Development of an integrated data storage and retrieval system for TEC

G. Kemmerling, H. Blom, P. Busch, W. Kojiman, M. Korten, CTAM de Laat, W. Lourens, E. van der Meer, B. Nederist, A.A.M. Oomens, F. Wijnoltz, K. Zwoll

P14 – Process control under safety aspects

T. Vollmer, K. Borcherding, G. Hellriegel and R.D. Penzhorn.

4 - Proceedings

A book containing the abstracts of the contributed papers will be distributed to the participants at the registration desk. The abstracts are also available in the web.

The Proceedings of the Meeting will be published, after a refereeing procedure, as a special issue of FUSION ENGINEERING and DESIGN (FED), published by ELSEVIER Science SA.

Contributions should be submitted **to the TCM secretariat before 12.00 a.m. of July 19th 1999, in triplicate** (original plus two copies) and **in a floppy disk,** prepared following the instructions which are available in the TCM website:

- Instructions for the preparation of manuscripts
- Rules for calculation of the number of printed pages
- Electronic submission notes for disk preparation.

The paper printed in FED must not exceed 6 pages. Additional pages and/or colour figures will be only approved by the Editor in very special cases and will be paid by the authors.

5 - Participation

All persons who want to participate in the Meeeting are requested:

(i) to complete the relevant applications forms

- Participation Form
- Form for Submission of a Paper

which can be downloaded from http://www.cfn.ist.utl.pt/tcm/forms.html

(ii) to send the Participation Form and the Form for Submission of a Paper to the competent official authority in their country (Minister of Foreign Affairs or National Atomic Energy Authority) as soon as possible but not later July 5th 1999, for subsequent transmission to IAEA.

A participant will only be accepted if the Participation Form and Submission Form for a Paper are transmitted through the government of the Member State of the International Atomic Energy Agency or through an Organization that has been invited to participate.

6 - Programme Committee

The Programme Committee is composed by:

- Carlos Varandas, IST-Lisboa
- Bruno Couturier, CEA-Cadarache
- Volker Schmidt, JET-Culham
- Hiromasa Ninomiya, JAERI-Naka
- Karl Behler, IPP-Garching
- Shigeru Sudo, NIFS-Nagoya
- Bill McHarg, GA-S. Diego

7 - Organizing Committee

The Organizing Committee is composed by:

- Prof. Carlos Varandas (Chairman)
- Dr. Ursula Schneider (IAEA)
- Prof. Carlos Correia
- Mr. Horácio Fernandes
- Mr. Jorge Santos
- Mrs. Maria Fernanda Pinto (Administrative Secretary)

8 - Accomodation

Abreu SA was nominated the official travelling agency of the Meeting. A Form for Hotel Reservation can be downloaded from http://www.cfn.ist.utl.pt/tcm/forms.html. This form shall be sent to Abreu SA before June 15th. The requests will be considered following the arrival order.

9 - Visa

Designated participants who require a visa to enter Portugal should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of Portugal.

10 - Travelling Expenses

As a general rule, the IAEA does not pay the cost of attendance, i.e. travel and living expenses, of participants. However, limited funds are available to help meet the cost of attendance of few selected specialists mainly from developing countries with low economic resources. Generally, not more than one grant will be awarded to any one country. The grants awarded will be in the form of lump sums usually covering part of the cost of attendance.

If you are citizen of a developing Member State of the IAEA and would need financial assistance in order to participate in the TCM, you should send the duly completed applications for grants together with your abstract through your competent official authority to the International Atomic Energy Agency, not later than 11th June 1999. The Form for Travelling Grant can be downloaded from http://www.cfn.ist.utl.pt/tcm/forms.html.

11 - Working Language

Working language will be English.

12 - Important Addresses

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