



eNews

April 15, 2009 (Issue 31)

CONTENTS

Director's Corner Reports

Jim Van Dam

Fusion For Energy (F4E) Task Force Meeting on W divertor for ITER

B. Lipschultz

Upcoming Burning Plasma-Related Events

Dear Burning Plasma Aficionados:

This newsletter provides a short update on U.S. Burning Plasma Organization activities. E-News is also available online at <http://burningplasma.org/enews.html> Comments on articles in the newsletter may be sent to the editor (R. Nazikian rnazikian@pppl.gov) or assistant editor (Rita Wilkinson ritaw@mail.utexas.edu).

Thank you for your interest in Burning Plasma research in the U.S.!

Director's Corner by J. Van Dam

Physics Task Agreements for ITER

The ITER Organization has issued still more calls for proposals on physics task agreements. The same procedures apply as were reported last month. The work solicitations would be set up as task agreements between the ITER Organization and the U.S. ITER Project Office. Anyone who is interested in submitting a proposal on these tasks should send it to the U.S. ITER Project Office for review and acceptance. Pricing information should be submitted in a separate attachment. The U.S. ITER Project Office will determine the appropriate credit to be requested from the ITER Organization, obtain approval signatures, and finalize submittals to ITER. For proposals that the ITER Organization accepts, the U.S. ITER Project Office will set up the necessary contracts with the task performers, since the funding will be provided through the U.S. ITER Project Office. If there are any questions about the task agreements, please contact Wayne Steffey <steffeyrw@ornl.gov>, 865-574-8364.

Here is a complete list of the recent task agreement solicitations.

Task	Due to USIPO	Due to ITER	Period
Study of Plasma Start-up	April 9	April 23	12 months
Study of Control of Plasma Current, Position and Shape	April 9	April 23	12 months
Self Consistent Simulations of Plasma Scenarios	April 9	April 23	12 months
Task on Simulations of Toroidal Field Ripple and TBM Effects on Energetic Particle Losses in ITER	April 9	April 23	12 months
Preparation of design database with the updated disruption code DINA	May 6	May 20	12 months
Task on magnetic reconstruction of the plasma boundary	June 5	June 20	12 months
Task on the Error Fields Measurements without plasma	May 6	May 20	12 months
Task on analysis of Resistive Wall Mode control by in-vessel (RMP) coils	June 5	June 20	12 months
Task on the study of error fields using the Ideal Perturbed Equilibrium Code		Note [1]	
Task on error fields measurements in ITER using plasma response	May 26	June 9	12 months

Note [1]: No deadline stated; IO wishes to discuss specifications and requirements with a contact person.

Update on ITER Special Expert Groups

The *ITER Research Plan Working Group* has begun its work on updating and extending the ITER Research Plan document. In addition to several teleconference meetings, an on-site meeting was held March 12-13 in Cadarache, and another such meeting will be held April 15-17. The goal is to have Version 2 of the document ready for the 6th meeting of the ITER Science and Technology Advisory Committee (May 25-27). The five U.S. participants are Michael Bell, Stan Milora, Ed Synakowski, Mickey Wade, and Steve Wolfe.

The *Integrated Modeling Expert Group* for ITER has scheduled its annual meeting for June 22-26 in Cadarache, the week prior to the European Physical Society's Plasma Physics Meeting. The two U.S. members of this expert group are Don Batchelor and Lang Lao.

The *Test Blanket Module Program Committee* held its first meeting March 25-26 in Aix-en-Provence. Participants from the U.S. were Jeff Hoy, Mike Hechler,

Mohamed Abdou, and Larry Leiken (a USDOE legal expert on intellectual property matters). For future meetings of the TBM Program Committee, Rob Goldston will be the fourth U.S. participant. Dr. Satoshi Konishi of Japan serves as the chair of the Program Committee.

Research Needs Workshop (ReNeW)

All of the Theme area workshops were held during the month of March. A compilation of 21 preliminary “thrust snapshots” has been posted on the ReNeW web site (which is hosted by the USBPO). The ten Theme area leaders and the three ReNeW leaders will hold an executive committee meeting May 5-7 in Austin, TX, at which theme chapters will be presented and potential combinations of priority research thrusts will be discussed. The full ReNeW workshop will be held June 8-12 in Bethesda, MD. I’d like to point out that the USBPO is a strong contributor to this strategic planning exercise. Of the 22 members of the USBPO Research Committee, two are serving as ReNeW theme leaders, three as panel leaders, and 11 as panel members. Furthermore, of the 12 members of the USBPO Council, four are serving as theme leaders, three as panel leaders, and three as panel members. Undoubtedly, many other regular USBPO members are also involved in the ReNeW activities. We look forward to its final report in July.

National Academies of Science Review

On July 29, 2008, the National Research Council of the U.S. National Academies of Science released a pre-publication version of the final report of its Committee to Review the U.S. ITER Science Participation Planning Process (CRISPPP). This special committee had been charged with evaluating the Energy Policy Act (EPAAct) Report, which was written by the USBPO in 2006. The report of the CRISPPP panel is entitled “A Review of the DOE Plan for U.S. Fusion Community Participation in the ITER Program.” The pre-publication version and the executive summary can be downloaded at <http://www.nap.edu/catalog/12449.html>. The final publication version became available in early 2009 and is now available for purchase from the National Academies of Science bookstore web site.

Upcoming ITPA meetings

Each of the ITPA topical groups typically holds two meetings per year. The schedule for the spring meetings this year is given in the table below, compiled by Michiya Shimada (ITER Organization).

Proposed ITPA Meetings in Spring 2009

Topical Group	Date	Place
Transport and Confinement	31 March–2 April 2009	Naka (Japan)
Integrated Operation Scenarios	31 March–3 April 2009	Naka (Japan)
Pedestal and Edge Physics	20-22 April 2009	Cadarache (France)
MHD	21-24 April 2009	Daejon (Korea)
Energetic Particles	21-24 April 2009	Daejon (Korea)
SOL and Divertor	5-8 May 2009	Utrecht Amsterdam (Netherlands)
Diagnostics	20-24 April 2009	St. Petersburg (Russia)
ITPA Coordinating Committee	15-16 July 2009	Cadarache (France)

Compiled by M. Shimada on 6 January 2009 (Michiya.shimada@iter.org)

📣 Announcements

Submit BPO-related announcements for next month's eNews to Raffi Nazikian at rnazikian@pppl.gov.

Reports

Fusion For Energy (F4E) Task Force Meeting on W divertor for ITER

Written by B. Lipschultz (MIT).

A task force was convened by the EU organization, Fusion for Energy (F4E), to evaluate the option to Start Operation in ITER with a full tungsten divertor. The group included mainly EU representatives. Bruce Lipschultz was asked to contribute a discussion on the high-Z wall experience from C-Mod as well as the ITPA SOL/divertor plans in this area. There were two Japanese representatives as well. The idea was to evaluate the status of knowledge and risks associated with switching the startup of the high-heat flux region of the ITER divertor to tungsten from carbon in the hopes that the DT phase could be reached faster and money could be saved by not having to have a second divertor installed.

The meeting was held at the ITER site on February 17-18 and consisted primarily of talks by the various physicists and engineers reporting on tokamak physics and engineering issues using tungsten on Plasma Facing Components (PFCs). The main risks were delineated as 1) damage by transient events, e.g. disruptions, ELMs,..., 2) tungsten impurity level in the core, 3) power handling issues, 4) surface morphology changes (and, thus, performance changes) in the ITER environment, and 5) restricted access to the projected ITER operational window. The task force members are currently writing 'work plans' to address

these issues over the next 2-3 years with obvious overlap to ITER, ITPA, and EDFA PWI groups' R&D plans. There will be a follow-up meeting in Madrid on April 29-30 to discuss work plans as well as more in-depth talks on material issues.

Upcoming Burning Plasma-Related Events

Apr 20-22

ITPA Pedestal & Edge Physics Topical Group Meeting
Cadarache, France

Apr 20-24

ITPA Diagnostics Topical Group Meeting
St. Petersburg, Russia

Apr 21-24

Joint Meeting of the ITPA Energetic Particles TG & the MHD TG
Daejeon, South Korea

Apr 28-May 1

[Transport Task Force Workshop](#)
San Diego, CA

May 2-5

[Sherwood Theory Fusion Conference/APS April Meeting](#)
Boulder, CO

May 5-8

ITPA Sol & Divertor Topical Group Meeting
Utrecht Amsterdam, FOM Rijnhuizen

May 11-14

[12th International Workshop on Plasma-Facing Materials & Components for Fusion Applications](#)
Jülich, Germany

May 25-30

STAC, MAC CPWG
TBD

May 31-Jun 5

[ICOPS-SOFE 2009 Conference](#)
San Diego, CA

Jun 14-18

[ANS Annual Meeting](#)
Atlanta, GA

Jun 24-26

[18th Conference on RF Power in Plasmas](#)
Gent, Belgium

Jun 29-Jul 3

[14th International Conference on Emerging Nuclear Energy Systems \(ICENES-2009\)](#)
Ericeira, Portugal

Jul 15-16

ITPA Coordinating Committee Meeting
Cadarache, France

Sept 6-11

[6th International Conference on Inertial Fusion Sciences and Applications \(IFSA 2009\)](#)
San Francisco, CA

Sept 7-12

[14th International Conference on Fusion Reactor Materials \(ICFRM-14\)](#)

Sapporo, Japan

Sept 21-24

[14th International Symposium on Laser-Aided Plasma Diagnostics \(LAPD-14\)](#)

Castelbrando, Treviso, Italy

Oct 5-7

ITPA Transport & Confinement Topical Group Meeting

PPPL, US

Oct 6-8

ITPA Pedestal & Edge Physics Topical Group Meeting

Princeton, New Jersey

Oct 11-16

[9th International Symposium on Fusion Nuclear Technology \(ISFNT-9\)](#)

Dalian, China

Nov 2-6

[51st APS-DPP Meeting](#)

Atlanta, GA

Fusion Research-related events can also be seen on the USBPO website at <http://burningplasma.org/events.html>.