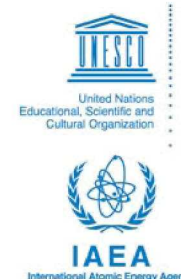




The Abdus Salam
International Centre for Theoretical Physics



Joint ICTP/IAEA Workshop on Dense Magnetized Plasma and Plasma Diagnostics

15 - 26 November 2010

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) together with the The International Atomic Energy Agency (IAEA) will organize a **Workshop on Dense Magnetized Plasma and Plasma Diagnostics** from 15 to 26 November 2010.

PURPOSE OF THE WORKSHOP

The purpose of the workshop is to train physicists, engineers and other scientists in physics, state-of-the-art design and diagnostics methodologies of Dense Magnetized Plasma (DMP) devices and their applications. During the workshop it will also be discussed the current status, performance and limitations of diagnostic techniques based on X-rays for characterization of plasma parameters including development of new instrumentation and methodologies for the plasma diagnostics.

The workshop will include laboratory activity in hands-on experimentation with a Dense Plasma Focus (DPF) device, based on modern technology, which was recently put into operation at the ICTP Multidisciplinary Laboratory (MLAB). Plans are to use the device for experimental sessions devoted to characterization of different types of radiation generated by the facility, as well as for demonstration of selected applications of these radiation pulses in various fields. This will help to provide cost-effective solutions in the field of the DMP instrumentation to meet the needs for research and training in developing countries. This workshop will also provide basic concepts and techniques necessary to work on leading-edge technologies in support of radiation material sciences, radiation biology and nuclear medicine.

PARTICIPATION:

Scientists from all countries, which are members of the UN, UNESCO or IAEA, may attend the Workshop. The main purpose of the ICTP is to help researchers from developing countries within a framework of international cooperation; however, scientists from developed countries are also welcome to attend at their own expense. As the activity will be conducted in English, participants should have an adequate working knowledge of this language.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants, who are nationals of, and working in a developing country. Such support is available only for those who attend the entire activity. There is no registration fee.

HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website
<http://agenda.ictp.it/smr.php?2168>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Deadline for requesting participation: **15 July 2010**

ACTIVITY SECRETARIAT:

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Workshop Topics

- Plasma parameters defined by X-Ray spectrometry techniques
- Status and advances in passive and active spectroscopy techniques for plasma diagnostics
- Role of X-ray lasers in plasma diagnostics
- New X-ray optics and detectors for diagnosis of fusion plasmas
- Use of complementary plasma diagnostic techniques
- Atomic data and modeling tools for the analysis of the experimental results
- Contemporary high-current nanosecond pulsed electronics tools for the Design of DMP Devices
 - Design of DMP devices (Z-and X-pinch, exploding wires and wire arrays, capillary discharges, etc.)
 - DPF: techniques, architectures and design
 - DMP physics: experiments, modeling and simulation
 - Classical and recent results of the DPF physics investigations (plasma dynamics, fast particle generation, beams' interaction with plasma and solid targets, etc.)
- DMP applications in science and technology

DEADLINE
for requesting participation

15 July 2010