

## **SATELLITE MEETING**

### **"Nuclear Spallation Reactions"**

to be held within the framework of the IAEA "International Topical Meeting on Nuclear Research Applications and Utilization of Accelerators",

Vienna, 4 – 8 May 2009

### **ANNOUNCEMENT AND CALL FOR PAPERS**

Spallation reactions are nuclear reactions playing an important role in a wide domain of applications ranging from neutron sources for condensed matter and material studies, transmutation of nuclear waste and rare isotope production to astrophysics, simulation of detector set-ups in nuclear and particle physics experiments, and radiation protection near accelerators or in space. The simulation tools developed for these domains use nuclear model codes to compute the production yields and characteristics of all the particles and nuclei generated in these reactions. The codes are generally Monte-Carlo implementations of Intra-Nuclear Cascade (INC) or Quantum Molecular Dynamics (QMD) models followed by de-excitation (principally evaporation/fission) models.

This **Satellite Meeting** will help experts and competent practitioners to better understand the physical basis, approximations, strengths and weaknesses of the currently used spallation models and codes. In addition, presentations of relevant basic experimental data with emphasis on accuracies, detector efficiencies, filters and thresholds will be planned. Contributions on both aspects are encouraged and welcome to define the Nuclear Spallation Reactions Satellite Meeting program.

The IAEA and the Abdus Salam International Centre for Theoretical Physics (ICTP) have recently organised an expert meeting on model codes for spallation reactions. The experts have discussed in depth the physics bases and ingredients of the different models in order to understand their strengths and weaknesses. Since it is of great importance to validate on selected experimental data the abilities of the various codes to predict reliably the different quantities relevant for applications, it has been agreed to organise an international benchmark of the different models developed by different groups worldwide. Therefore, a second important objective of the meeting will be to discuss the results of the recently launched Benchmark Exercise on Spallation Models. Details on this initiative are posted on the website:

<http://www-nds.iaea.org/spallations>

During the **Satellite Meeting**, a first assessment of the results obtained from the benchmark initiative will be discussed. The main topics to be addressed at the Satellite Meeting are:

- To review the status of the benchmark exercise on spallation models recently launched;
- To assess the preliminary results of the benchmark in terms of respective successes or deficiencies of the different models;
- To define the figures of merit to compare the different models;

- To present basic experimental data relevant for the benchmark with emphasis on accuracies, detector efficiencies, filters and thresholds;
- To promote the exchange of information among researchers in the field;
- To identify areas of international cooperation in the field.

Complementary to the main specific topics listed above, the main objective of the **Satellite Meeting** is to promote exchange of information among IAEA Member States representatives and delegates, and to discuss new trends in neutron spallation reactions for applications in the relevant fields. It is also aimed at enhancing research collaboration between Member States and promoting education on topics related to the AccAp-09 Conference, emphasising the potential of nuclear based technologies.

### **SATELLITE MEETING: IMPORTANT INFORMATION**

- The **Satellite Meeting** will be held in parallel with the main conference programme for a number of half days (depending on the number of contributed papers).
- Participants in the **Satellite Meeting** will be required to **register for and participate in the main conference**. For instructions please refer to the Announcement and Call for Papers for the main conference.
- Participants in the **Satellite Meeting** are invited to submit an abstract to the Satellite Meeting Organizers **within 31 January, 2009**. Submission of papers to the main conference by participants in the Satellite Meeting is also encouraged. For instructions please refer to the Announcement and Call for Papers for the main conference.
- Organization

The Organizing Committee of the **Satellite Meeting** on Nuclear Spallation Reactions is composed of:

- Jean-Christophe David, CEA, Saclay, France
- Detlef Filges, Forschungszentrum Jülich, Germany
- Frank Goldenbaum, Forschungszentrum Jülich, Germany
- Sylvie Leray, CEA Saclay, France
- Guenter Mank, IAEA Vienna
- Alberto Mengoni, IAEA Vienna, Austria
- Yair Yariv, NRC Soreq, Israel

For any question concerning participation, please contact the Organizers.