Joint ICTP-IAEA Advanced Workshop on Model Codes for Spallation Reactions

4 - 8 February 2008

Introduction and Aim of the Meeting

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Vienna
Austria
Joint ICTP-IAEA Advanced Workshop on Model Codes for Spallation Reactions

ICTP, Trieste, Italy

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Local Organizer: C. Tuniz
Outline

IAEA interest in accelerators:

• Education and Training
• Nuclear Applications
• Accelerator Driven Systems
• Structural Materials and Fuel

Activities:

• Coordinated Research Projects
• Technical Meetings and Workshops
• Training and Schools
• Conferences
International Atomic Energy Agency (IAEA)

- Founded 1957
- in Vienna, Austria
- 149 Member States
- 6 Divisions
- 2200 Staff
- About 300 MEuro Budget
- http://www.iaea.org/
The Nobel Peace Prize 2005

"for their efforts to prevent nuclear energy from being used for military purposes and to ensure that nuclear energy for peaceful purposes is used in the safest possible way"

International Atomic Energy Agency (IAEA)

Mohamed ElBaradei

1/2 of the prize

Vienna, Austria

Founded in 1957

Egypt

Director General of IAEA

b. 1942
Pillars of the IAEA

• Promoting Science & Technology
  the world's focal point to mobilize peaceful applications of nuclear science and technology for critical needs in developing countries

• Promoting Safeguards & Verification:
  the world's nuclear inspectorate

• Promoting Safety and Security
  helps countries to upgrade nuclear safety and security
Objective

This Workshop will facilitate experts and competent practitioners to better understand the physical basis, approximations, strengths and weaknesses of the currently used spallation codes.

Presentation of relevant basic experimental data with emphasis on accuracies, detector efficiencies, filters and thresholds will create basis for code validation and inter-comparison.
Outcomes

The workshop will help:

• To understand in depth, the physics of INC, QMD models and de-excitation models
• To point out the reasons of their respective successes or deficiencies;
• To define an agreed set of experimental data to be used in validation and inter-comparison of the models;

• To promote the exchange of information among researchers in the field;
• To identify areas of international cooperation in the field.
The agreed set of experimental data will be proposed as an international benchmark and reviewed by experts in a follow-up activity.

Results presented and discussions held will be helpful in aspects of target design, experimental and detector layout in general to account amongst others for e.g. the FAIR facility planned at GSI, Darmstadt.
# Agenda

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>INC models</td>
<td>INC/PE models</td>
<td>SMD models</td>
<td>De-excitation models</td>
<td>S. Mashnik</td>
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<tr>
<td>9:00 - 9:45</td>
<td>Opening: goals of the workshop</td>
<td>CEM</td>
<td>GEM</td>
<td>A. Bevila (INR, Russia)</td>
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<td>9:45 - 10:30</td>
<td>Opening: goals of the workshop</td>
<td>S. Mashnik (LANL, USA)</td>
<td>C. Hartnack (GSI, Germany)</td>
<td>A. Bevila (INR, Russia)</td>
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<td>Coffee Break</td>
<td>Generic features of INC models</td>
<td>INCL</td>
<td>GEM</td>
<td>K. Herold (FRI, Japan)</td>
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<td>11:00 - 12:30</td>
<td>Generic features of INC models</td>
<td>A. Ferrer (INFN, Italy)</td>
<td>INC model in PhITS + JGMO</td>
<td>GEM</td>
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<tr>
<td>Lunch</td>
<td>Generic features of INC models</td>
<td>K. Nilss (RIST, Japan)</td>
<td>GEM</td>
<td>R. Charity (USA)</td>
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<td>14:00 - 14:45</td>
<td>INCL and Discussion</td>
<td>Charged Particle Data</td>
<td>Residue Data</td>
<td>R. Michel (Uni Hannover, Germany)</td>
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<tr>
<td>14:45 - 15:30</td>
<td>INCL and Discussion</td>
<td>Charged Particle Data</td>
<td>Residue Data</td>
<td>S. Lisy (CEA, France)</td>
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<td>Coffee Break</td>
<td>IAEA goals of Intercomparison</td>
<td>Expert meeting on Intercomparison</td>
<td>Expert meeting on Intercomparison</td>
<td>Directors</td>
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<td>16:00 - 18:00</td>
<td>IAEA goals of Intercomparison</td>
<td>Expert meeting on Intercomparison</td>
<td>Expert meeting on Intercomparison</td>
<td>Data and results format + general discussion</td>
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<td>Dinner</td>
<td>General goals</td>
<td>Figures of merit</td>
<td>Expert meeting on Intercomparison</td>
<td>Closed session (Report)</td>
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<td>20:30 - 21:45</td>
<td>Reception</td>
<td>Discussion</td>
<td>Event</td>
<td>Free</td>
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**IAEA 1957 - 2007**

**Atoms for Peace: The First Half Century and the next fifty years**
## IAEA TEC-DOC, summary report