Summary Report of
Second Research Coordination Meeting on

**Minor Actinide Nuclear Reaction Data (MANREAD)**

International Atomic Energy Agency (IAEA)
Vienna, Austria

31 March – 3 April 2009

Prepared by

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July 2009
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**Abstract**
The second Research Co-ordination Meeting of the MANREAD (Minor Actinides Neutron Reaction Data) was held at the IAEA Headquarters in Vienna from 31 March to 3 April 2009. A summary of the discussion which took place at the meeting is reported here together with a list of the main outcomes and recommendations produced by the RCM participants.

July 2009
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1. INTRODUCTION

Participants at the Second Research Coordination Meeting (RCM) on Minor Actinide Nuclear Reaction Data (MANREAD) were welcomed to the IAEA by A. Nichols (Section Head, NDS, IAEA).

A. Mengoni (IAEA, NAPC/NDS) presented a summary of the CRP activities performed so far. An overview of the “Experimental Data Assessment Initiative” (EDAI) was given and the main results obtained were presented.

The proposed Agenda of the meeting was adopted (See APPENDIX 1 enclosed). Prof. Y. Nagai, JAEA, was elected chairman of the meeting.

RCM participants were provided with a summary of the CRP objectives, list of participants and other administration-related informations.

2. DISCUSSION

The proposal to perform most of the activities of the RCM in working groups was adopted by the participants. During the first phase of work on the EDAI, participants have compiled 612 web-forms, which have been used to produce the assessment for each isotope and reaction channel. During the discussions the upload of the assessment directly to the MANREAD wiki site was agreed

http://www-nds.iaea.org/manread/wiki
3. WORKING GROUPS

The working groups were formed according to the task assignment list agreed during the 1st RCM. This is main page of the EDAI website.

Working groups started to work immediately on the first day of the meeting. An example of a compilation result for the capture reaction channel in Am-243 is shown in the two figures below.
**Am-243**

- Thermal cross section
- Resolved Resonance Parameters
- Fast region
- $E = 20$ MeV
- Normalization
- Quality of documentation
- Recommendation
- E/15 out of 20

**Am-245**

- Thermal cross section

Twelve entries report data for the thermal range or give a resonance integral. The overall uncertainty of 4% has been achieved.

The effective cross sections (temperature averaged) vary more widely.

Chi et al. 2006 argue that their effective cross section is in agreement with the work by Wang et al. 2002. The $Q_0$ value has been included with a resonance integral of 2505 B. This value is the lower value for the RI of Simpson et al. 1974. The overall uncertainty for the RI is 6%

The uncertainties of Burton et al. 1994 and Darnaud et al. 1985 appear unreported in this data.
The best way to obtain all information on the assessments performed during the meeting is through the wiki site at the link given above.

4. RECOMMENDATIONS AND ACTIONS LIST

After the working group activities, the participants in the Research Coordination Project joined to discuss recommendations and the action list for the activities to be performed.

During the discussions it was proposed to compile a list of facilities in which measurements of neutron cross-section data and other relevant quantities for Minor Actinide (MA) are being performed at present and/or can be performed in the immediate future. A one-page form where basic characteristics of the beam, available detectors and estimated accuracy reachable in measurements on specific MA can be reached should be prepared by the CRP participants.

**Actions list**

1. Complete the submission of the Experimental Data Assessment forms (few missing experiments, mostly already compiled in EXFOR).
   Action on: *All.*
   Deadline: *July 2009.*

2. Complete editing of the assessment for each isotope and reaction channel on the wiki site.
   Action on: *All.*
   Deadline: *Fall 2009.*

3. Prepare a draft of the form to be used to produce a list of experimental facilities presently operating with basic information on the beam, detectors, and sample availability and handling capabilities.
   Action on: *CRP Project Officer.*
   Deadline: *End of 2009.*

5. CLOSE

The meeting was closed after Y. Nagai had thanked the participants for their cooperation and contributions, the IAEA for hospitality, and A. Mengoni for organization.
2nd Research Co-ordination Meeting on
Minor Actinide Neutron Reaction Data (MANREAD)
IAEA Headquarters, Vienna, Austria
31 March – 3 April 2009
Room A2774+A2311

AGENDA

Tuesday, 31 March

08:30 - 09:30 Registration (IAEA Registration desk, Gate 1)
09:30 - 10:30 Opening Session
  • Welcoming address – A.L. Nichols - Head, Nuclear Data Section
  • Introductory remarks – A. Mengoni, Scientific Secretary
10:30 – 11:30 Break for administrative matters
11:30 - 12:15 Discussion and Working Groups formation
  (Coffee break as appropriate)
12:15 - 14:00 Lunch break
14:00 - 17:30 Working group activity
  (Coffee break as appropriate)

Wednesday, 1 April

9:30 - 12:30 Working group activity
  (Coffee break as appropriate)
12:30 - 14:00 Lunch break
14:00 - 17:30 Working group activity
  (Coffee break as appropriate)
19:30 - Social event (dinner at "Restaurant Puerstner")

Thursday, 2 April

9:30 - 12:30 Working group activity
  (Coffee break as appropriate)
12:30 - 14:00 Lunch break
14:00 - 17:30 Discussion (outcome from Working group activity)
  (Coffee break as appropriate)
Friday, 3 April

9:30 - 12:30 Discussion on agreed MANREAD topics
(Coffee break as appropriate)

12:30 - 14:00 Lunch break

14:00 - 17:30 Discussion: RCM report
(Coffee break as appropriate)

Close
Appendix 2

2nd Research Co-ordination Meeting on
Minor Actinide Neutron Reaction Data (MANREAD)
IAEA Headquarters, Vienna, Austria
31 March - 3 April 2009
Room A2774+A2311-13

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