

An update on the Nuclear Structure Experimental Issues website

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A website is needed to raise nuclear-structure related issues



IAEA

International Atomic Energy Agency

INDC(NDS)-0733
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INDC International Nuclear Data Committee

Summary Report of an IAEA Technical Meeting

Co-ordination of the International Network of Nuclear Structure and Decay Data Evaluators

Lawrence Berkeley National Laboratory, Berkeley, USA

22 – 26 May 2017

28	Experimental Activities Subcommittee	Dissemination of information - experimental activities website	Create website of high-priority nuclear structure and decay data measurements for information and guidance, based on recent mass chain and/or individual nuclide evaluations. See Section 4.3 for detailed description.
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- 22nd Technical Meeting of the NSDD Network held at LBNL in Berkeley, California, USA, from May 22-26, 2017.
- Platform needed for users of nuclear structure data to raise issues and request improved data per *Action Item #28*.
- Develop and host interactive website at UC Berkeley.



Inspired by the High Priority Request List

<https://www.oecd-nea.org/dbdata/hprl/>

The screenshot shows the NEA Nuclear Data High Priority Request List (HPRL) website. The header includes the NEA logo and navigation links: ABOUT US, TOPICS, NEWS AND RESOURCES, and LEARNING AND TOOLS. A 'DATA BANK' button is also present. The main content area is titled 'NEA Nuclear Data High Priority Request List' and features a navigation menu with options: HPRL Main, High Priority Requests (HPR), General Requests (GR), Special Purpose Quantities (SPQ) (Standard, Dictionary), New Request, and EG HPRL (EG-C). Below the menu, a paragraph explains that the HPRL is a compilation of the most important nuclear data requirements, intended to guide those planning measurement, nuclear theory and evaluation programmes. It also mentions the historical background and the NEA Working Party on International Nuclear Data Evaluation Cooperation (WPEC). A list of three main categories is provided: 1. High priority requests, 2. General requests, and 3. Special purpose quantities. A search bar is located below the list. At the bottom, there is a section for '2021 Events' with two entries: 'Hybrid 22-26 November - JEFF Meetings' and 'Remote 27-30 April - JEFF Meetings'. Contact information for WPEC is also provided.

- The NEA hosts the Nuclear Data High Priority Request List.
- An analogous website was considered useful for the nuclear structure community to raise issues and awareness.
- Originally to be called the *“High Priority Nuclear Structure Request List”*.
- Later decided on *“Nuclear Structure Experimental Issues”*.



The Nuclear Structure Experimental Issues (NSEI) Website

<https://nucleardata.berkeley.edu/nsei/>

Nuclear Structure Experimental Issues

List of priorities:

Nucleus	Issue	Submission	Action	Status
^{87}Rb	Clarifying nuclear structure data	A. M. Hurst	A. M. Hurst	open
^{87}Rb	Branching ratio of the 585.5 keV transition from the 8m 8+ state	A. Negret	pending	open
^{87}Rb	^{87}Rb QEC in 2011/06/30 not consistent	A. T. F.	pending	open
^{87}Rb	Basic knowledge of branching ratios, multipolarities and mixing ratios	R. Soriano	pending	open

Status key:
open - Action in progress (yellow)
in progress - Action of some community members (orange)
resolved - Issue has been resolved (green)

Objective of the NSEI website

The purpose of the Nuclear Structure Experimental Issues (NSEI) website is to provide a mechanism for nuclear data evaluation and the low-energy community, in general, to raise awareness of issues in nuclear structure data. Users can enter a brief description of the issue they would like to raise, and a committee working under the auspices of the Nuclear Structure and Decay Data (NSDD) Division of the International Atomic Energy Agency (IAEA), will make researchers in the field who might be interested in helping to resolve the problem aware of the issue.

The initial committee co-chairs are Dr. Alexandru Negret and Dr. Lee Bernstein. This committee was formed at the 22nd Technical Meeting of the NSDD Network that was held at the Lawrence Berkeley National Laboratory in Berkeley, California, USA, from May 22-26, 2017. The summary report of this meeting may be downloaded and is published in [NSDD-2017-01](#).

For technical issues regarding the website please contact Dr. Aaron Hurst. If you have nuclear reaction-specific needs, please click [here](#).

- NSEI hosted on Apache 2.2.15 webserver on Centos6 platform running PHP 5.3.3 server-side scripts at UC Berkeley.
- Purpose of NSEI website is to provide mechanism for nuclear data evaluators and the low-energy community, in general, to raise awareness of issues in nuclear structure data.
- Types of requests and their status (open/progress/closed) can be monitored from the website.



Add a request

ADD A NEW EXPERIMENTAL REQUEST:

First name: Last name:

Email:

Affiliation:

Nucleus: Subject:

(Fields with a * symbol are mandatory)

Write your message here. Alternatively, you may upload a file.

No file selected.

Submission requires that you enter the correct answer to the question below

9 + 1 =

- Form submissions use CAPTCHA to reduce SPAM.
- Limited file-type submission (e.g., pdf, png, jpg) and size (2 Mb).

View an existing request

EXPERIMENTAL REQUEST:

Name: Alexandru Negret
Affiliation: IFIN-HH
Email: anegret@randem.sipne.ro
Nucleus: ^{88}Sr **Subject:** Branching ratio of the 184.5 keV transition from the first 6⁺ state

REQUEST MOTIVATION:

Contradicting information exist in recent literature regarding the branching ratio of the 184.5-keV gamma transition decaying from the first 6+ level (E=2857 keV):
2017Du09 - 22.7(24)%
2016J25 - 8.1(10)%
2014J25 - 3.2(2)%

In the latest ENSDF evaluation (2015), the value is 5.7(25)%. A gamma-gamma coincidence measurement may clarify the issue.

Responsible Individual (RI): Pending assignment **Email:**

RI COMMENTS:

- All requests are moderated.
- Brief description of issue user wants to raise gets posted.
- A committee working under the auspices of the NSDD Network of the IAEA will assign the issue to experts in the field.



Issues with the NSEI website

- Since implementation the idea never really gained traction.
- Is a resource of this type really needed by the nuclear structure and decay-data community?
- Website working fine prior to migration to a new server accompanied by a change in system administrators, around Fall 2021.
- Back up and running for around a year.
- Security compromise (Summer 2022) on campus server \Rightarrow no longer support websites running PHP scripts on server hosting NSEI.
- Website is currently effectively defunct although an alternative [campus] solution could probably be accommodated.
- Do we want to resurrect this resource?

