



**International Atomic Energy Agency**

## **Archiving of Old Evaluated Data Libraries**

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# Background

PHYSICAL REVIEW C 85, 024624 (2012)

## Systematic study of $(n, p)$ reaction cross sections from the reaction threshold to 20 MeV

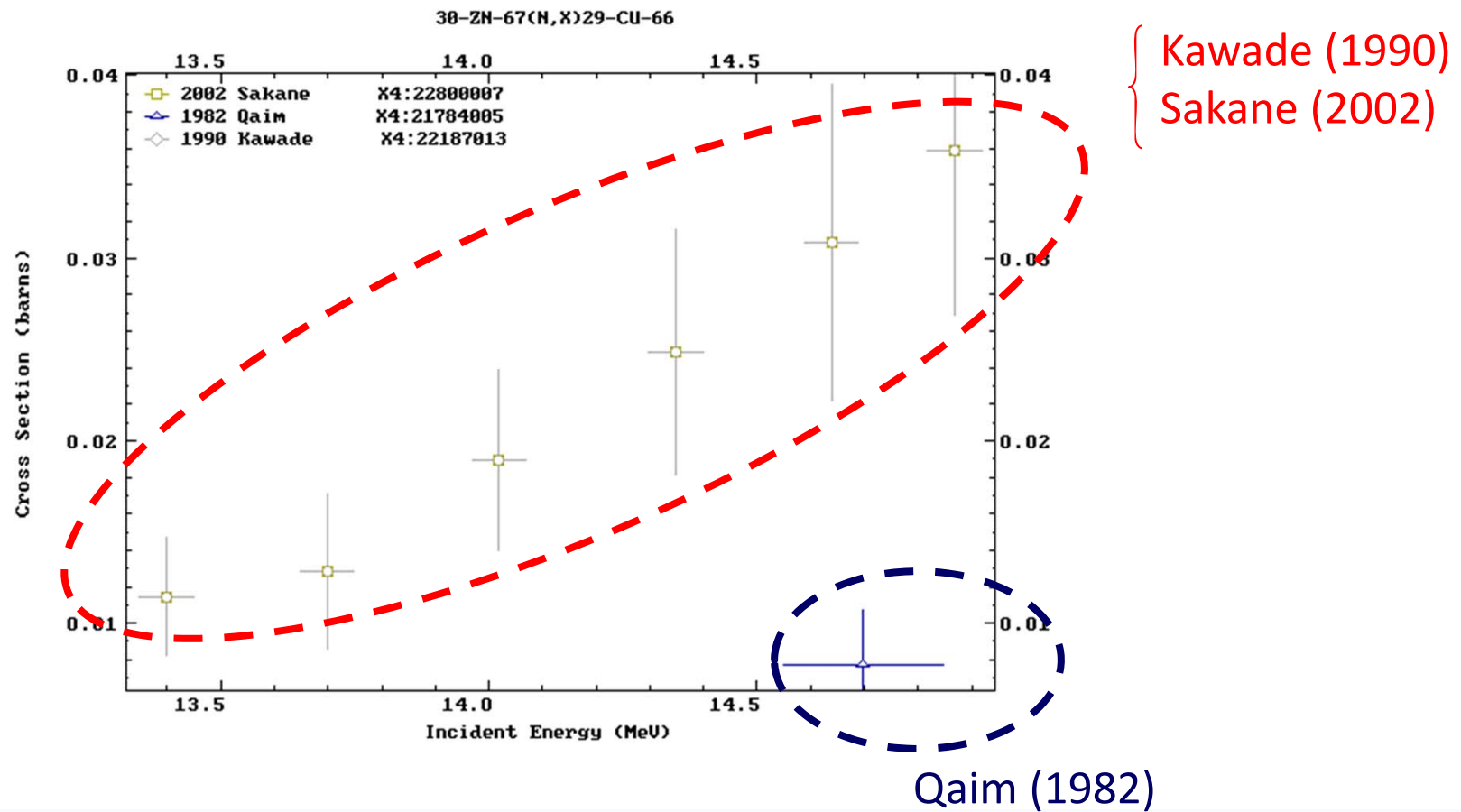
B. Lalremruata,<sup>1,\*</sup> N. Otuka,<sup>2</sup> G. J. Tambave,<sup>3</sup> V. K. Mulik,<sup>4</sup> B. J. Patil,<sup>4</sup> S. D. Dhole,<sup>4</sup> A. Saxena,<sup>5</sup>  
S. Ganesan,<sup>6</sup> and V. N. Bhoraskar<sup>4</sup>

- I checked the manuscript about 14 MeV (n,p) activation cross sections prepared by Dr. B. Lalremruata (Indian EXFOR reviewer).
- I found many duplications in EXFOR entries created from Osaka Univ. OKTAVIAN facilities (collaboration between Nagoya Univ. and Osaka Univ.).



## Example of Duplication

$^{67}\text{Zn}(n,x)^{66}\text{Cu}$  – 3 EXFOR data sets found (21784, 22187, 22800)



# Comparison of MONITOR - $^{27}\text{Al}(n,a)^{24}\text{Na}$

## 22187.001 (Kawade+, 1990)

MONITOR (13-AL-27(N,P)12-MG-27,,SIG)

BASED ON STANDARD  $\text{AL-27(N,A)}$  REACTION IN ENDF/B-V...

## 22187.001 (Sakane+, 2002)

MONITOR (13-AL-27(N,A)11-NA-24,,SIG)Primary standard

(13-AL-27(N,P)12-MG-27,,SIG)

For Neutron Flux

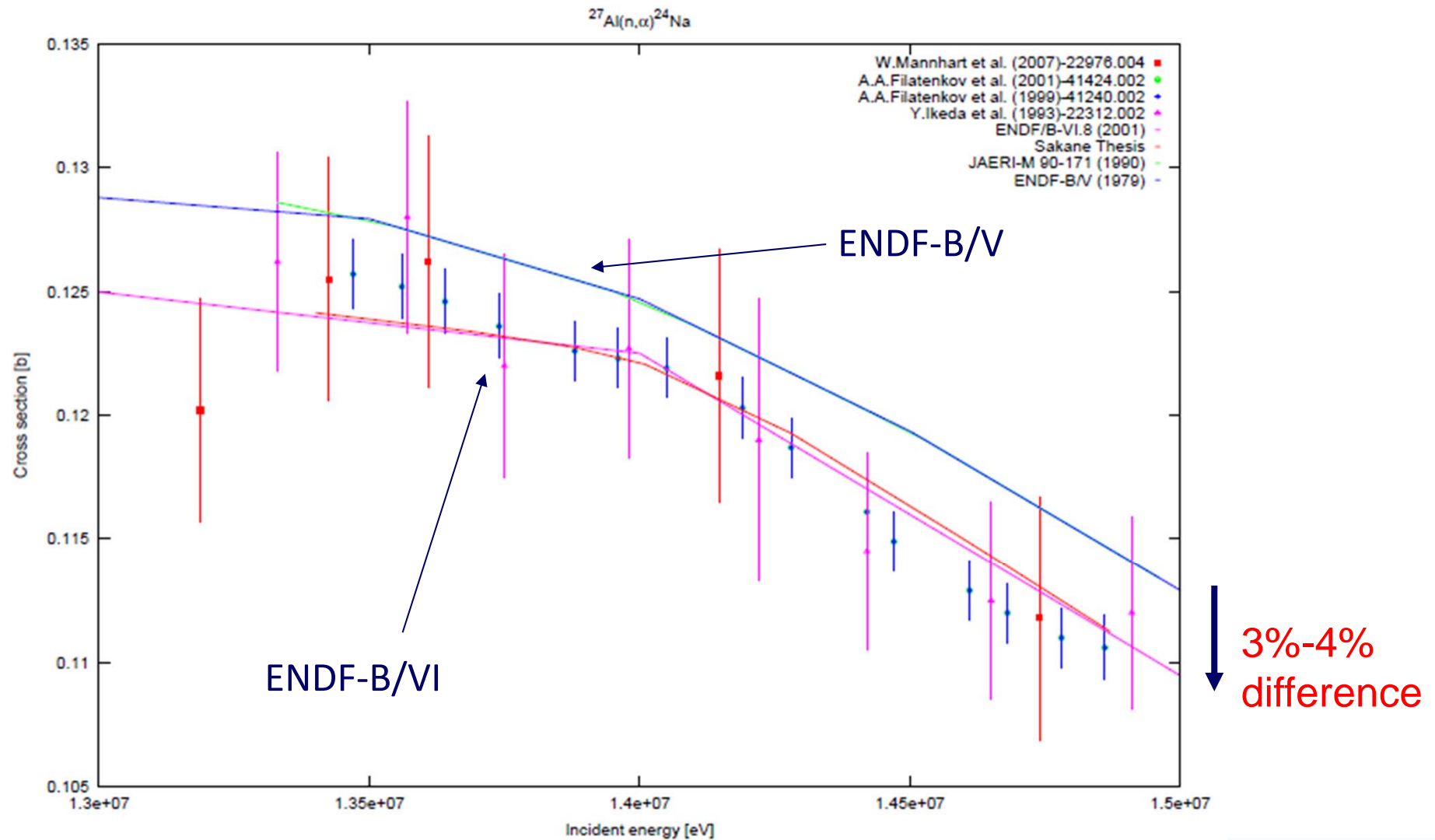
Monitoring Based on the Standard  $\text{Al-27(N,A)}$

Reaction In ENDF/B-**VI**

**Different versions of ENDF (V or VI) were used as standard,  
though two data sets completely agree...**

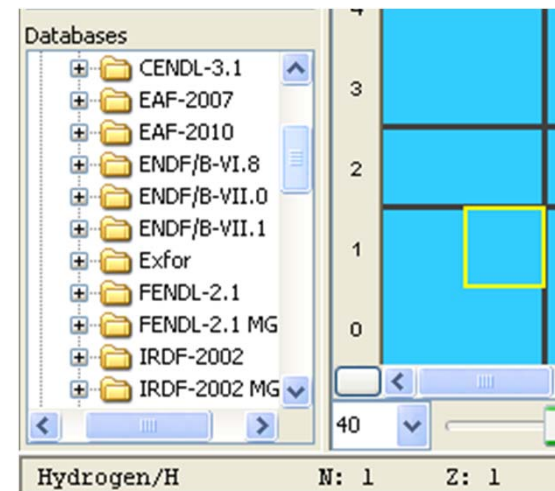
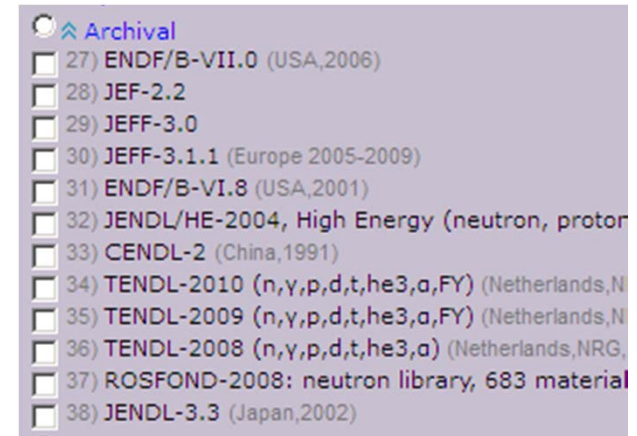
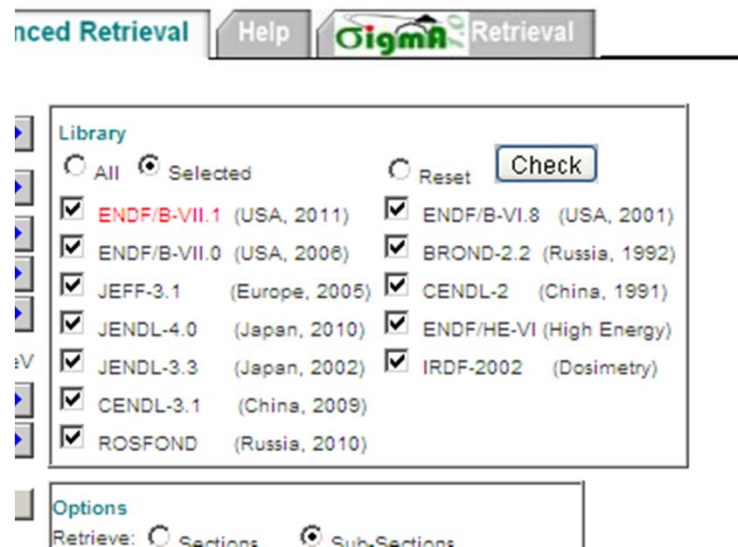


# $^{27}\text{Al}(n,\alpha)^{24}\text{Na}$ – ENDF/B-V and VI



# No database for ENDF/B-V?

- ENDF/B-V is not available in the database for retrieval, plotting etc. (in NDS, NNDC, NEA ...)



# ENDF/B-V in NDS ENDF-Archive

- An ASCII file of ENDF/B-V was found in the NDS “ENDF-Archive”.
- A similar archive on the NEA DB web page, too.
- Data are in the ENDF-5 format, but it is similar to ENDF-6 MF3, and I could manually edit and plot it.

ENDF-Archive

Name	Last modified	Size	Description
Parent Directory		-	
ASIYAD/	23-Jul-2008 00:00	-	
Activ87/	23-Jul-2008 00:00	-	
Adl3t/	23-Jul-2008 00:00	-	
BROND-2-2/	20-Jan-2009 00:00	-	
Riscorn2/	23-Jul-2008 00:00	-	

 **NEA**  
Nuclear Energy Agency

Home > Nuclear Data Services

[/dbforms/data/eva/evatapes/](#)

Name	Last modified	Size	D
Parent Directory		-	
actl_82/	13-Dec-2007 17:02	-	
adl_3/	19-Feb-2002 17:19	-	
asiyad/	22-Mar-2002 09:58	-	
bnl_1gev/	22-Mar-2002 09:58	-	
brond_22/	22-Mar-2002 09:47	-	
cendl_2/	22-Mar-2002 09:47	-	



## Recommendation for discussion (Don Smith)

1. An attempt should be made to insure, to the extent possible, that complete versions of all earlier libraries, e.g., ENDF/B, JEF(F), JENDL, be made available at all the data centers for use in renormalizing old data. Just having such information only for the so-called "standards" is probably not sufficient since many older measurements were made relative to reactions that today are not really considered to be standards.
2. These data should be readily accessible interactively so that evaluators can extract the information and do these renormalizations automatically in their evaluation codes.





## Recommendation for discussion (Don Smith)

3. It should be recommended that evaluators always renormalize old data that they use to new values of standards whenever ratios are involved.

4. If old reported results correspond to ratio measurements where there is no longer access to the reaction involved in the ratio, i.e., the so-called "standard" that was used, or if the authors fail to indicate where they obtained the "standard" cross sections, or fail to give the values, then these data should be flagged in such a way that evaluators will avoid them when accessing the EXFOR library for relevant data to use in their evaluations. This would be comparable to flagging certain data with: "*Not Recommended For Evaluation Purposes*". It's like health warnings on cigarette packages or "*Non-Potable Water*" signs in public parks. Use of such data could lead to hidden biases in evaluations that might never be identified.



## Recommendation to Centres

- Exchange and collect old evaluated data libraries
- Make old evaluated data libraries available on the database service (search, plotting, renormalization etc.)
- Recommend evaluators to do renormalization whenever it is possible (?)
- “Warning flag” for old data which is not possible to renormalize (?)



## Message from Don Smith

*Anyway, enjoy Paris. Many people dream of visiting **Paris in April**. There is even a popular song to that effect.*

