

# Current Initiatives in the Working Party on International Nuclear Data Evaluation Co-operation & Activities

**Anastasia GEORGIADOU, SCI/DB\***

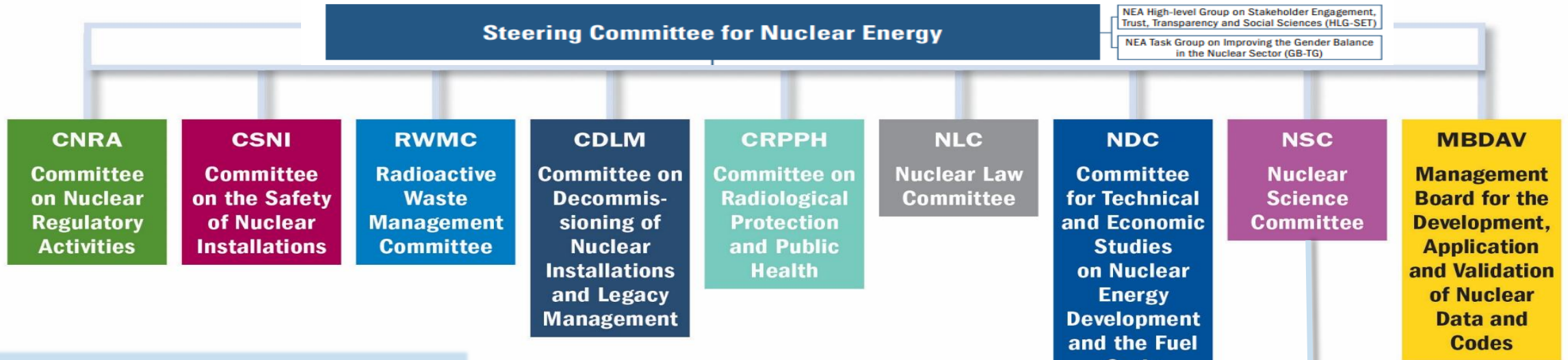
**Antonio JIMENEZ-CARRASCOSA, SCI/DB**

# NEA member countries



**The NEA's current membership consists of 34 countries in Europe, the Americas and the Asia-Pacific region. Together they account for over three-quarters of the world's installed nuclear capacity.**

# Introduction to NEA SCI and NEA Data Bank



## NSC in numbers

- 1500+ experts
- 5 Working Parties/ 22+ Groups
- 7 databases
- 6 joint projects
- The Global Forum
- 20+ ongoing benchmark studies
- 10+ publications/year
- 10+ workshops/year, 1000+ participants

- Reactor physics and transient studies
- Radiation shielding
- Fuel cycle physics and chemistry
- Fuel and material science
- Nuclear criticality safety
- Nuclear data
- Nuclear knowledge management education and training

Division of Nuclear Science and Education

# WPEC-Expert Groups

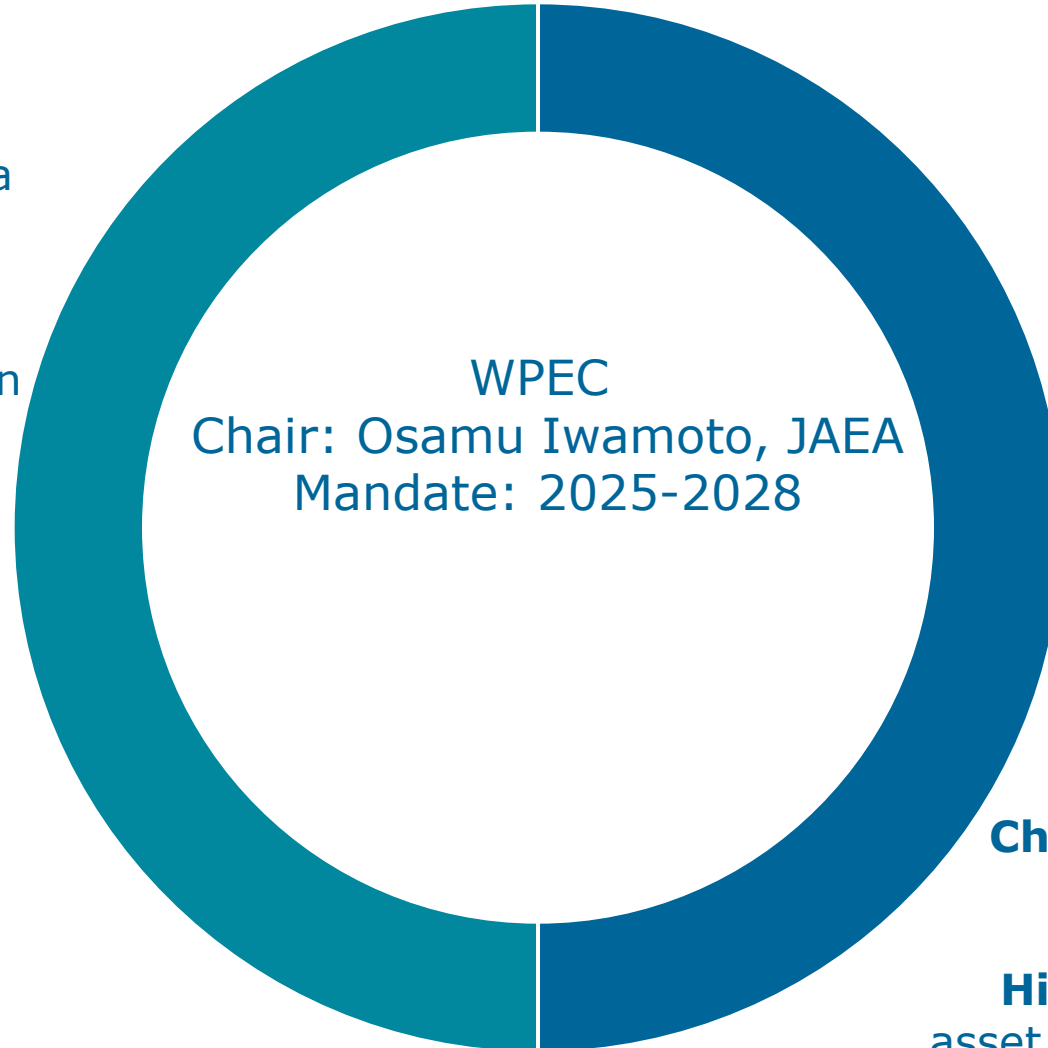
## EG GNDS

**Chair:** Caleb Mattoon, LLNL, US

**Mandate:** 2025-2027

**Focus:** Generalised Nuclear Data Structures (Format)

**Highlights:** Working paper Specifications 2.1 published  
Processing codes intercomparison



WPEC  
Chair: Osamu Iwamoto, JAEA  
Mandate: 2025-2028

## EG HPRL

**Chair:** David Bernard, CEA, FRANCE

**Mandate:** 2025-2027

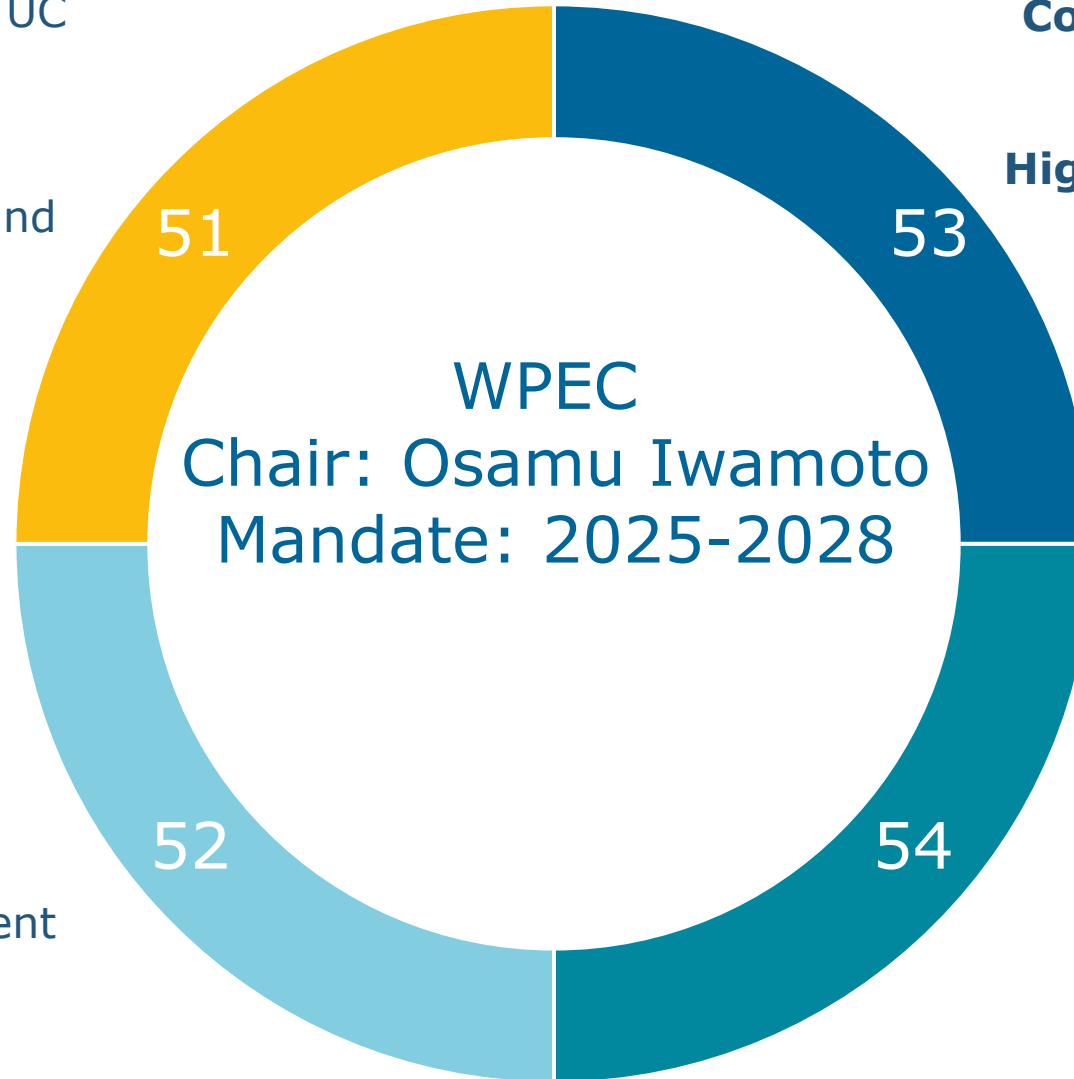
**Focus:** High Priority Request List

**Highlights:** GitLab repository great asset for input and expert collaboration

# WPEC-Subgroups

**Coordinators:** Vladimir Sobes, UC Tennesse  
Jesse Brown, ORNL  
**Monitors:** Kenichi Tada, JAEA  
**Focus:** Evaluation, Processing and Validation URR  
**Highlights:** Collaborative NEA report

**Coordinators:**  
Mathieu Hursin, EPFL  
Denise Neudecker, LANL  
Jesson Hutchinson, LANL  
**Monitors:** Oscar Cabellos, UPM  
**Focus:** ND Adjustment exercise  
**Highlights:** Hands-On adjustment exercise by all members



**Coordinator:** Gustavo Nobre, BNL  
**Monitor:** Yaron Danon, RPI  
**Focus:** Zr evaluation  
**Highlights:** New evaluations based on recent experiments

**Coordinator:** Boris Pritychenko, BNL  
**Monitor:** Georg Schnabel, IAEA  
**Focus:** Curated EXFOR  
**Highlights:** By 2027 provide the basis of a curated library possibly hosted by the NEA DB

# SG 51: Evaluation, Processing and Validation in the Unresolved Resonance Region *Active SGs*

## Coordinators:

Vladimir Sobes, UC Tennessee  
Jesse Brown, ORNL

## Monitors:

Roberto Capote, IAEA  
Kenichi Tada, JAEA

**Outcome:** NEA Report

## Goals

- Quantification of application response differences for various definitions of beginning and end of the URR for fissile and non-fissile materials.
- Coordinated work planned across formats, processing codes, and transport applications based on SG32 recommendations.
- Include defining sensitive benchmarks and establishing URR probability table validation exercises along with URR uncertainty quantification.

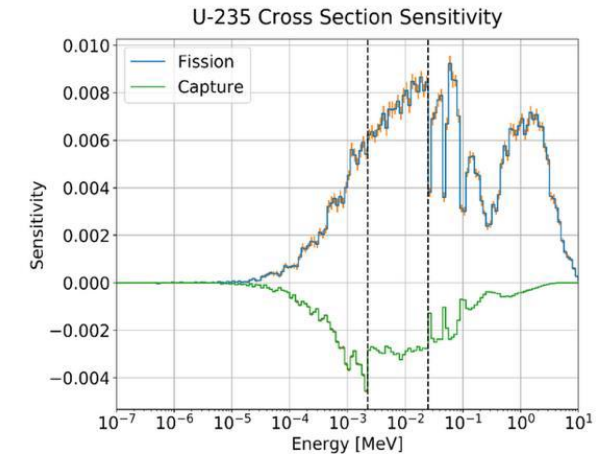


Figure 5: Optimized Teflon Sensitivity Profile, 2.276 cm Teflon Plates.

## HEU-MET-INTER-011

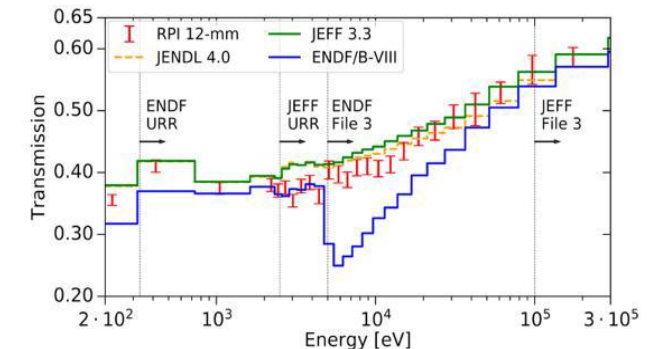


Figure 5.13: The grouped thick-sample transmission measurement in red, along with the MCNP calculated transmission using various evaluated cross section libraries.

Plots by J. Brown SG51 review WPEC meeting 03/06/2025

**Secretariat: Antonio JIMENEZ-CARRASCOSA**

# SG 52: Development and Application of Advanced Methodologies to Produce Application Specific Nuclear Data *Active SGs*

## Coordinators:

Mathieu Hursin, EPFL  
Denise Neudecker, LANL  
Jesson Hutchinson, LANL

## Monitors:

Roberto Capote, IAEA  
Oscar Cabellos, UPM

**Outcome:** Intercomparison of new and consolidated adjustment tools, application-oriented evaluation, NEA report

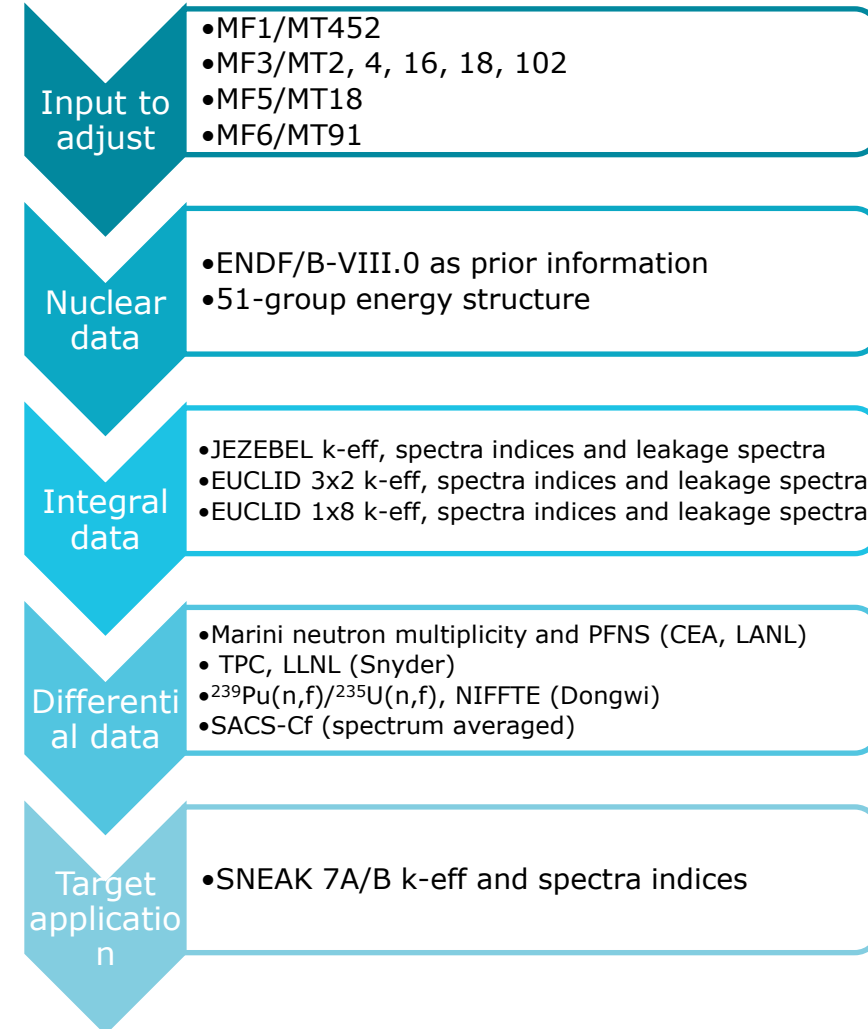
## Goal

Reconstruct a Pu-239 modern evaluation (ENDF/B-VIII.1) starting from its previous version through the assimilation of integral and differential data.

The adjustment exercise specifications were released in May 2026.

## Procedure

Multi-step adjustment exercise with increasing complexity incorporating the same experimental data used by the evaluators and exploring the impact of new experimental data.



**Secretariat: Antonio JIMENEZ-CARRASCOSA**

# SG 53: Stable Zr evaluation and validation *Active SGs*

## Coordinator:

Gustavo Nobre, BNL

## Monitor:

Yaron Danon, RPI

**Outcome:** New evaluations, Scientific Journal publications, NEA Report

## Goals

Re-evaluate the neutron-induced reaction data for all stable zirconium isotopes



New reaction data evaluations for Zr isotopes

Available for adoption by nuclear data libraries

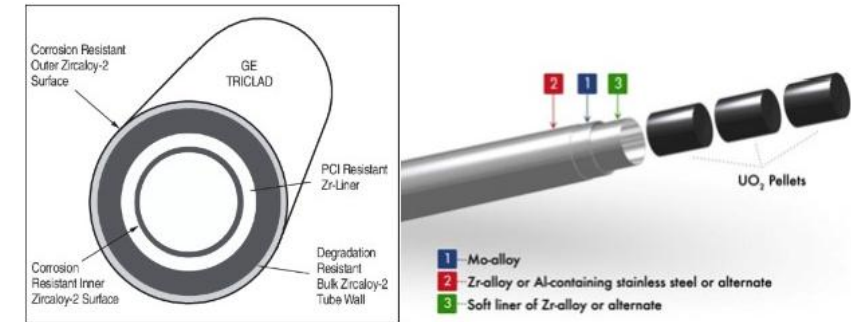
## New measurements

- R-Matrix fits of resonances
- Model calculations
- Adjustments to data, and
- Validation of evaluated files against integral benchmarks

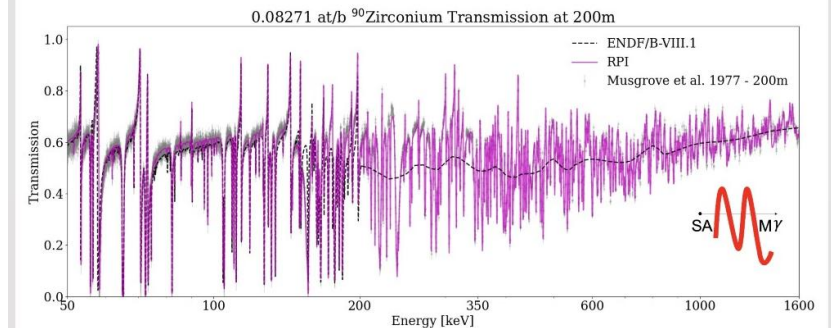


## Validation

The evaluations will be validated by ICSBEP and other available benchmarks



Resonance parameters fit to  $^{90}\text{Zr}$  transmission data up to first excited state, 1764 keV. Limit of current ENDF/B-VIII.1 RRR is 200 keV.



Plots by G. Siemers, G. Nobre presentation SG53 meeting 14/10/2025

**Secretariat: Anastasia GEORGIADOU**

# SG 54: Curated EXFOR: developing an automatically readable, comprehensive, and curated experimental reaction database

## Coordinator:

Boris Pritychenko, BNL

## Monitor:

Georg Schnabel, IAEA

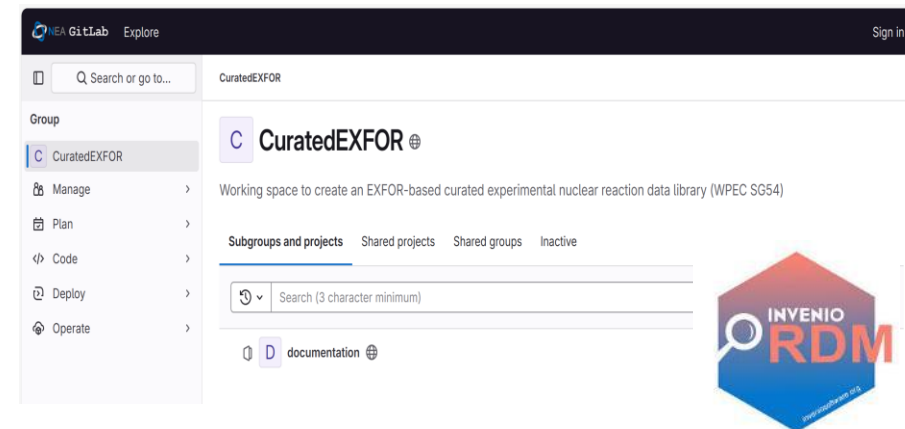
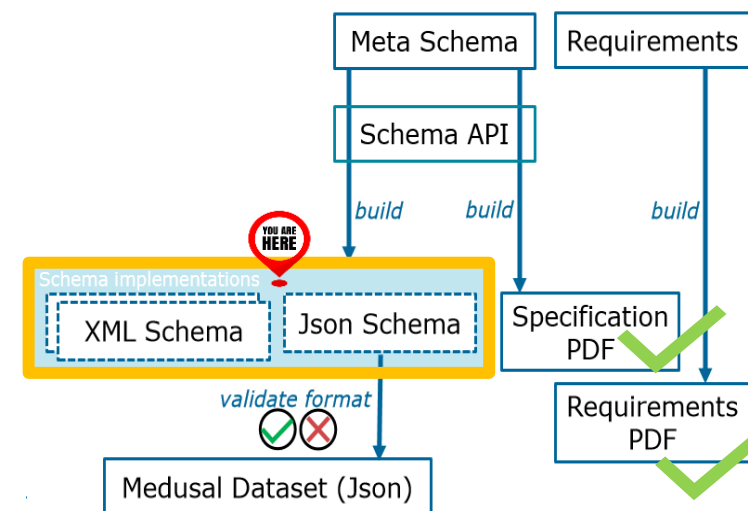
**Outcome:** Curated library, NEA report

## Based on the work of SG50 MEDUSAL COLLABORATION

Specified new database structures and requirements so that valuable experimental data can be retained for future use

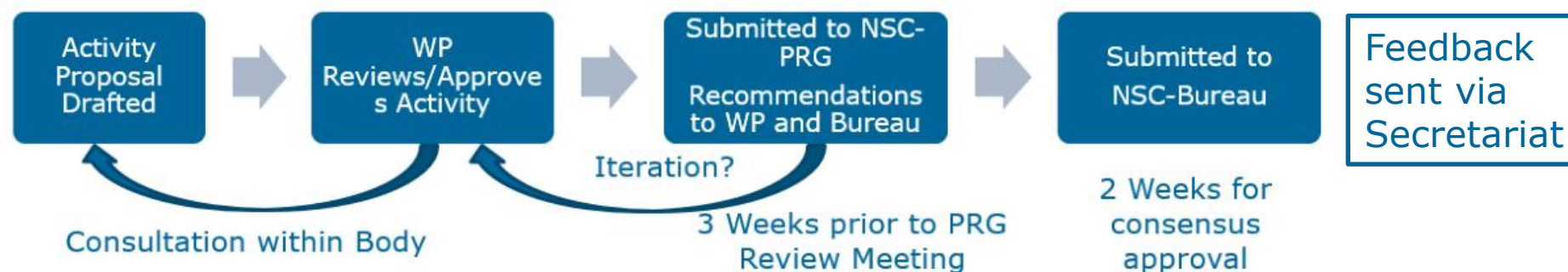
### UPDATES

- First examples built: curated subentries 14237502 and 14278502 from Karlsruhe, Cf-252 and AIACHNE datasets. ✓/✗
- Infrastructure underway: GitLab repository and Invenio community being set up to store curated entries and metadata. 🗄️
- Open questions: how to store and disseminate curated data; several EXFOR JSON implementations still need testing. 📋



**Secretariat: Anastasia GEORGIADOU**

# Proposals for WPEC



- PRG provides comments within 1 month, with recent efforts **lowering the time to 1 week**, PRG is working to minimize delays.
- Activity **proposal sheet updated in 2024** to improve clarity and PRG appreciates feedback to improve the template.
- Various steps in the review process can be followed in a '**StatusTracking**' sheet, accessible to the NEA Secretariat
- In cases PRG suggests a revised version, a **PRG single point of contact** is nominated



**Typical requests from PRG:** Clarify objective and how it fits WP priorities, Interactions between bodies, contributions of participants; meeting frequency ; suggestions to integrate outputs into education initiatives or Data Bank products to facilitate knowledge management.

# WPEC Activities – EGHPRL Highlights

<https://git.oecd-nea.org/science/wpec/hprr/requestForm/-/issues/>

The screenshot displays the GitLab interface for the WPEC HPRL repository. The left sidebar shows the project navigation menu with 'Issues' selected. The main content area shows a list of issues, with two new issues highlighted: '10B(n,t) for LWR tritium production in the primary circuit' and 'Pm147 capture branching fraction'. The right sidebar shows the details for the selected issue, including the title, assignee, labels, dates, requester details, and request details.

## Two new Requests submitted in 2026 through HPRL GitLab repository demonstrating:

- Accelerated processing of high-priority requests.
- Strong expert engagement.
- Enhanced quality and accessibility of nuclear data contributions.

# WPEC Activities - 2025-2027 Publications:



GNDS-2.1 Specifications, NEA Working paper, Dec 2025  
DOI: <https://doi.org/10.82155/vx7d-az61>

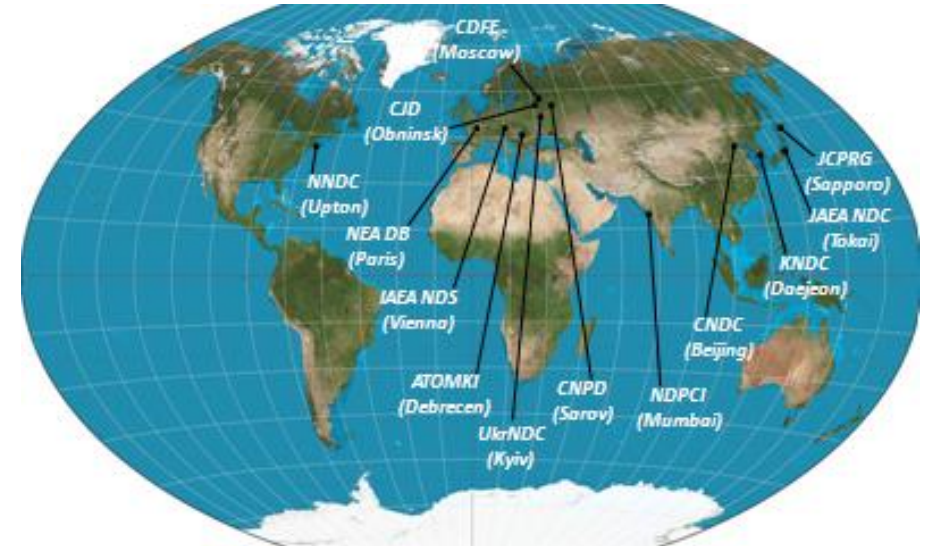
\*SG50 Specifications, NEA Publication  
\*SG50 Requirements, NEA Working Paper

# NEADB/ Experimental Nuclear Reaction Data (EXFOR)

- Developed under the Nuclear Reaction Data Centers umbrella : 13 Centers (including NEA DB)
- Hosted at IAEA (Monitoring role)
- >60 years history
- Central data project within nuclear community
- Collection of experimental nuclear reaction data
- Contains data extracted from 25k+ publication

## The NEA DB:

- Update and maintain the EXFOR database for data coming from DB countries - Neutron-induced data (Area 2) - Gamma- and charged-particle induced data (Area 0)
- RO: A. Georgiadou and Julia Sprenger



*Source: International Network of Nuclear Reaction Data Centres*

# NEA DB GitLab EXFOR Repositories

<https://git.oecd-nea.org/exfor>

NEA GitLab

Q Search or go to...

Group

- EXFOR
- Pinned
- Issues 1.4k
- Merge requests 18
- Manage
- Plan
- Code
- Build
- Deploy
- Operate

Help

EXFOR

## EXFOR

New subgroup New project

Subgroups and projects Shared projects Shared groups Inactive

Search (3 character minimum) Name

> C compilation	0 2 3
> N NRDC Files and reviews of files published by the NRDC	1 5 1
> T tools	0 6 1
A Article Requests	★ 0 1 week ago
E exfor-main	★ 0 3 days ago
E exfor_sandbox Project for exfor experimentation and debugging	★ 0 3 months ago
G gitlab-profile	★ 0 4 months ago

README.md

### Welcome to the Exfor space at the NEA GitLab

Would you like to propose a article to be included in Exfor? Head to the [Exfor Article List](#). Feel free to vote on existing articles and comment on existing articles. To add an article to the list [open a new issue](#)

# NEA DB GitLab EXFOR Repositories– Article Request List (Allocation List)

<https://git.oecd-nea.org/exfor/articles>

The screenshot displays the GitLab interface for the EXFOR Article Requests. On the left, a sidebar shows the project structure with 'Article Requests' selected. The main content area is divided into two columns. The left column lists several article requests, each with a title, ID, creation date, creator, and associated labels. The right column provides a detailed view of the selected article request, including its title, ID, and creation details. Below the title, there is a section for 'Article metadata' with fields for DOI, first author, and publication year. Further down, there are sections for 'Child items', 'Linked items', and 'Activity'. On the far right, a vertical sidebar contains management options such as 'Assignee', 'Labels', 'Dates', 'Milestone', 'Parent', 'Time tracking', and 'Contacts'.

**Project**

- Article Requests
- Pinned
- Issues (1.4k)
- Merge requests (0)
- Manage
- Plan
- Code
- Build
- Deploy
- Settings
- Help

**EXFOR / Article Requests / Issues**

- (J,NP/A,551,173,1993) #1660 · created 1 week ago by IssueBot  
center:NEADB data:charged-particle nuclear
- Hofer (1993) Direct and multiple excitations in 96Zr from inelastic-scattering experiments** #1659 · created 1 month ago by SPRENGER Julia, NEA/SCI/DB  
center:NEADB data:charged-particle nuclear high priority
- (J,FBS,13,19,1992) #1658 · created 1 month ago by IssueBot  
center:NEADB data:charged-particle nuclear
- Polke (T,POLKE,1987) #1657 · created 1 month ago by IssueBot  
center:NEADB data:charged-particle nuclear
- (J,EEJP,,(1),161,2026) #1656 · created 1 month ago by IssueBot  
center:UKRNDC data:photonuclear
- (J,FBS,13,19,1992) #1655 · created 1 month ago by IssueBot  
center:NEADB data:charged-particle nuclear
- Polke (T,POLKE,1987) #1654 · created 1 month ago by IssueBot  
center:NEADB data:charged-particle nuclear
- (J,EEJP,,(1),161,2026) #1653 · created 1 month ago by IssueBot  
center:UKRNDC data:photonuclear
- (J,CST,60,268,2026) #1652 · created 1 month ago by IssueBot  
center:CND data:charged-particle nuclear

**articles#1659**

## Hofer (1993) Direct and multiple excitations in 96Zr from inelastic-scattering experiments

Open Issue created 1 month ago by SPRENGER Julia, NEA/SCI/DB

### Article metadata

- DOI: [https://doi.org/10.1016/0375-9474\(93\)90478-G](https://doi.org/10.1016/0375-9474(93)90478-G)
- First author: Hofer
- Publication year: 1993

0 0 0 Create merge request

#### Child items

No child items are currently assigned. Use child items to break down work into smaller parts.

#### Linked items

Link items together to show that they're related.

#### Activity

- SPRENGER Julia, NEA/SCI/DB added high priority label 1 month ago
- SPRENGER Julia, NEA/SCI/DB added center:NEADB label 1 month ago

**Assignee** Edit  
None - assign yourself

**Labels** Edit  
center:NEADB x  
data:charged-particle nuclear x  
high priority x

**Dates** Edit  
Start: None  
Due: None

**Milestone** Edit  
None

**Parent** Edit  
None

**Time tracking** +  
Add an estimate or time spent.

**Contacts** Edit  
None

# NEA DB GitLab EXFOR Repositories – Article Submission

<https://git.oecd-nea.org/exfor/articles/-/issues/new>

NEA GitLab

EXFOR / Article Requests / Issues / New

Q Search or go to...

Project

- Article Requests
- Pinned
- Issues** 1.4k
- Merge requests 0
- Manage
- Plan
- Issues** 1.4k
- Issue boards
- Milestones
- Code
- Build
- Deploy
- Settings

## New issue

### Type

Issue

### Title (required)

### Description

Request Article

Continue editing

### Article metadata

- DOI:
- First author:
- Publication year:

This issue is confidential and should only be visible to users having at least the Planner role

Create issue

Cancel

**Assignee** Edit  
None - assign yourself

**Labels** Edit  
None

**Milestone** Edit  
None

**Dates** Edit  
Start: None  
Due: None

**Contacts** Edit  
None

# NEA DB GitLab EXFOR Repositories –Streamlined Reaction Data Submission

- **Standardized Submission Templates**

*Unified templates ensure consistent, reproducible reaction data aligned with international standards like IAEA guidance.*

- **Domain-Specific Template Support**

*The same templates tailored for specific experimental methods improve data accuracy and enable automated validation workflows.*

- **Inclusive Access and Collaboration**

*The system supports both GitLab users and external contributors, promoting broad community participation and teamwork.*

- **Future Development and Integration**

*Ongoing efforts focus on refining templates, expanding data types, and integrating validation pipelines into GitLab.*

# NEA DB GitLab EXFOR Repositories –Streamlined Reaction Data Submission

Reaction Data Template: e.g. template developed for time-of-flight measurements in IAEA meeting in 2013, INDC(NDS)-0647

### Create new issue

- Discrete Level Cross Section Dataset**  
Submit or update a dataset for discrete-level reaction cross sections
- Exclusive Channel Cross Section Dataset**  
Submit or update a dataset for exclusive channel cross sections
- Multi-Reaction Cross Section Dataset**  
Unified template for all nuclear reaction cross section types (total, exclusive, discrete, particle production, residual)
- New Dataset**  
Add a new dataset to exfor
- Residual Production Cross Section Dataset**  
Submit or update a dataset for residual production cross sections (e.g., (n,x), (p,x))
- Time-of-Flight Spectra Submission**  
Submit TOF spectra data in IAEA/AGS-compatible format
- Total Cross Section Dataset**  
Submit or update a dataset for total, elastic, or non-elastic neutron cross sections

### New issue

Type: Issue

Title (required):

Description: tof\_spectra\_submission\_IAE...

Continue editing

#### Time-of-Flight Spectra Submission

**Description**  
Submit TOF spectra data in IAEA/AGS-compatible format

**Title**  
[TOF] <Experiment ID> - <Material>

**Labels**

- TOF
- IAEA
- Data Submission

**Assignees**

- data-reviewer

**Time-of-Flight Spectra Submission**  
Please fill out all sections to ensure compatibility with IAEA/EXFOR standards.

**Experiment ID**  
Unique identifier for the experiment (e.g., TOF-2026-001)  
Example: TOF-YYYY-XXX

**Facility**  
Name of the laboratory or facility  
Example: Geel Linear Accelerator

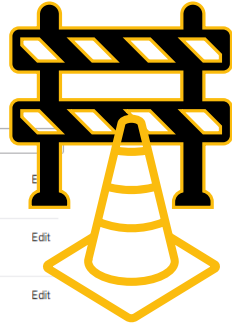
**Assignee**  
None - assign yourself

**Labels**  
None

**Milestone**  
None

**Dates**  
Start: None  
Due: None

**Contacts**  
None



No NEA GitLab account?  
No problem!  
Reach out to us!

# 2026 NEA GitLab Question & Answers Series

*Open Drop-In Sessions around any question you ever had regarding the NEA GitLab*

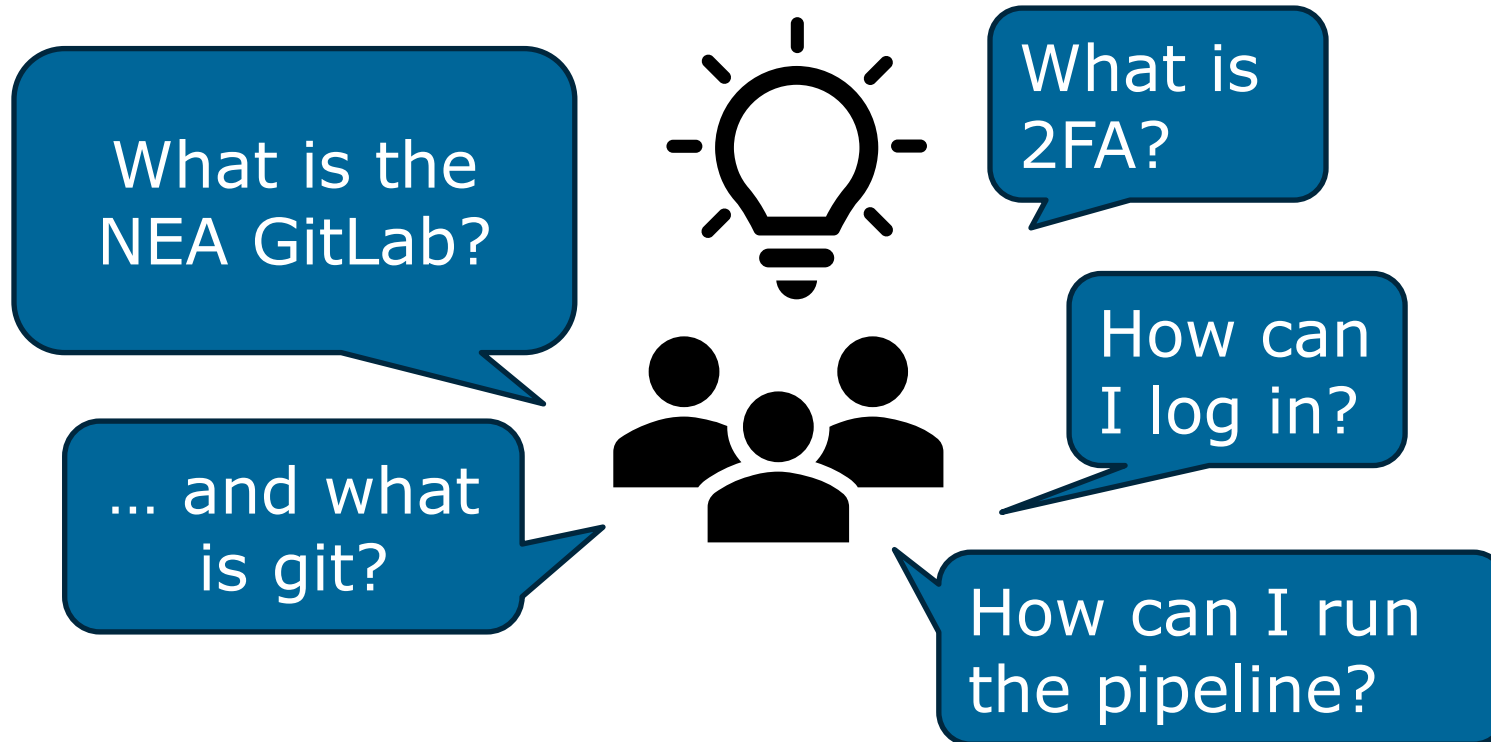


When and where?

- Every **3<sup>rd</sup> Tuesday** of the month
- **10am** and **5pm CET**
- Latest news & connection

<https://annuel.framapad.org/p/nea-gitlab-faq-session-akvn>

Julia.Sprenger@oecd-nea.org



# WPEC Activities – Summary

- **Continued strong engagement with the international nuclear data community**
- **Goals**
  - Recommend nuclear data improvements (including covariance data) based on stakeholder input, new data, and advances in theory and modeling.
  - Suggest updates in codes, formats, methods, and practices for better evaluation processes.
  - Monitor and update the HPRL to stimulate measurement and evaluation activities through modern pathways.
- **2026 WPEC meeting**
  - WPEC: 26 to 29 May 2026; BB10 OECD, Boulogne-Billancourt
- **Open Call for WPEC Subgroup Proposals**
- **EXFOR: Input templates trial phase**





**Thank you for  
your attention**

**[Anastasia.Georgiadou@oecd-nea.org](mailto:Anastasia.Georgiadou@oecd-nea.org)**