

Task Force on SINBAD

M. Fleming

Acting Head of the Data Bank

WPEC Subgroup 47
Zoom Videoconference, 9 December 2021

Background

- ICSBEP and IRPhE have officially mandated Technical Review Groups in NEA
- SINBAD does not have a TRG
- SINBAD contains entries that do not meet the TRG standards – but they are still valuable, used by the community and require maintenance
- SINBAD ‘maintenance’ at NEA occurred through EGRTS discussions
 - *Feedback from participants*: not efficient to have extensive discussion within EGRTS meetings on these technical points
- Wealth of new methods in RTS offer substantially improved modelling and interpretation of the data
 - Work is ongoing (e.g. WPEC Subgroup 47) to improve existing entries and make them more valuable for users
 - WPEC is not mandated to make changes to SINBAD

TF and the ICSBEP TRG

- The TRG reviews evaluations (including shielding) that conform to the required standards – **this is the goal for all shielding evaluations**
- The TF will work on improving SINBAD entries and upgrading them for the TRG
- Improvements are important, but won't satisfy TRG requirements in 'one step'
- No TF / TRG overlap in responsibilities

TRG-ICSBEP

- Officially mandated body within WPNCS
- Sets standards for evaluated integral data
- Review evaluations (including shielding)
- Provides feedback on needs to upgrade potential evaluations to meet the TRG standards

TF-SINBAD

- Collect feedback on SINBAD content
- Update existing SINBAD entries
- Add additional content to improve entries
- Collect/prepare data for improvement of entries to meet TRG-standards



WPEC Subgroup 47

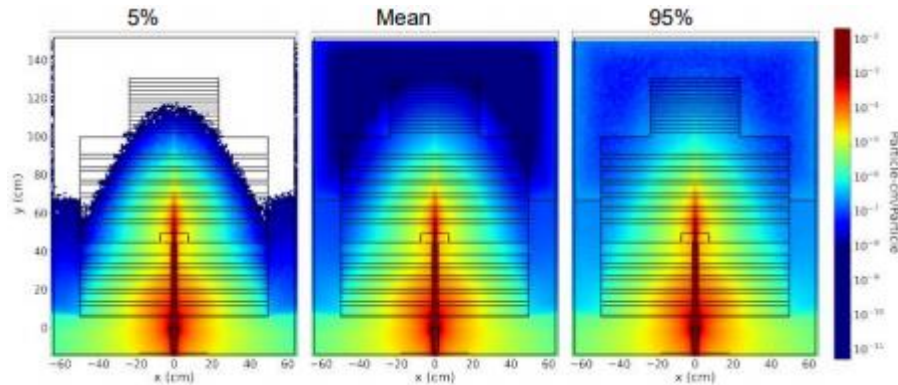
WPEC Subgroup 47 (Chair: Ivo KODELI, UKAEA/JSI)

Use of Shielding Integral Benchmark Archive and Database for Nuclear Data Validation

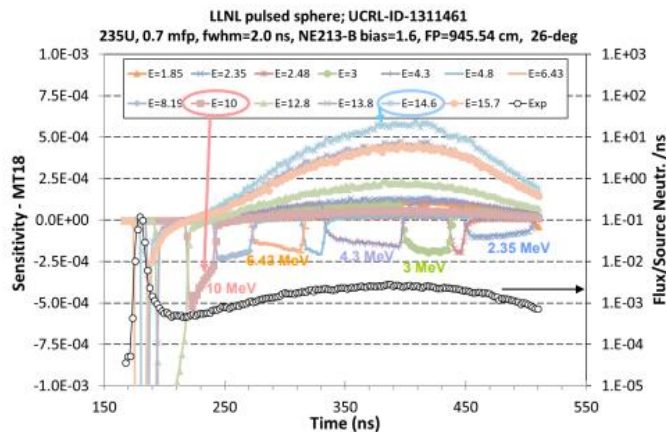
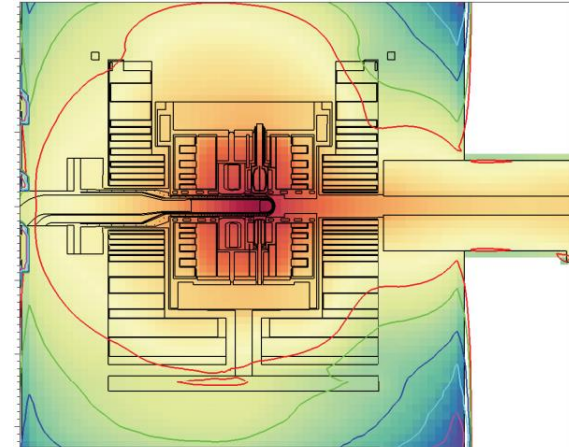
- Endorsed May 2018 launched 2019
- Aimed to increase the value of SINBAD for ‘nuclear data validation’
- Considerable discussion on the status of SINBAD entries and priority areas for new experimental entries - and improvements
- Dedicated sessions on computational methods and resources (e.g. VR, CAD/DAG, S/UQ)
- Subgroup 47 closing with final meeting planned in December and wrap up in 2022

<https://oecd-nea.org/download/wpec/sg47/>

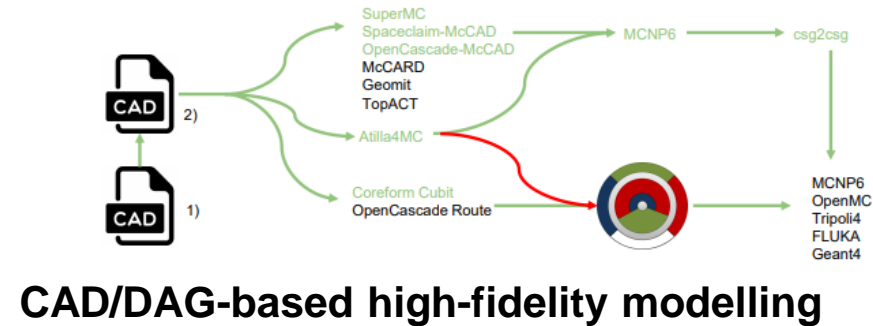
Increase utility for SINBAD users



**Advanced variance reduction
and uncertainty quantification**



Sensitivity analyses (high potential value)

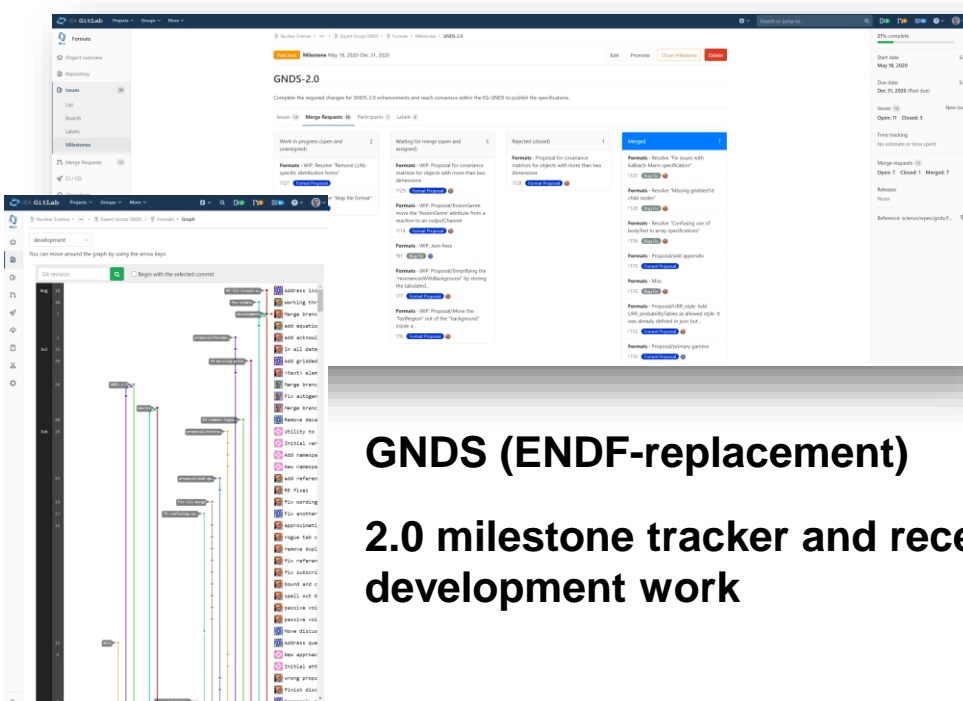


CAD/DAG-based high-fidelity modelling

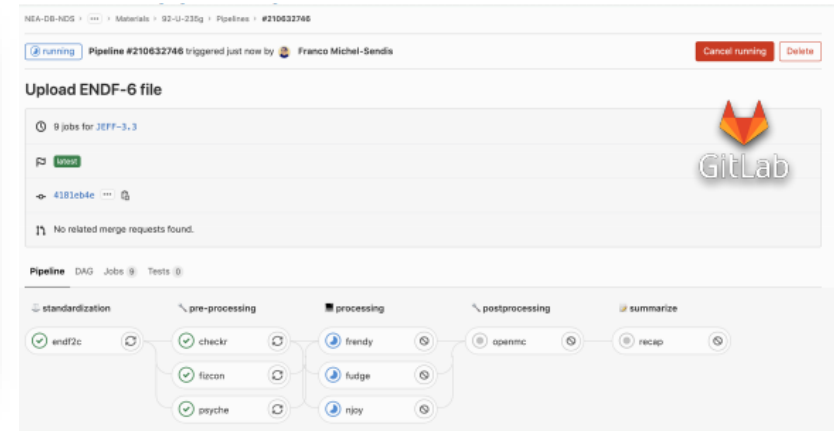
NEA GitLab

NEA launched a GitLab in 2018 and has been using it in several activities

- Can be used for data and integration of QA processes
- Multiple project management tools (e.g. issue boards, milestone/progress trackers, merge/proposal requests, rigorous version controlling, etc.)



**GND5 (ENDF-replacement)
2.0 milestone tracker and recent
development work**



**JEFF nuclear data library
automatic processing and testing**

Proposal

- Instead of discussing technical SINBAD points in EGPRS, have a subset of the members (+ invited experts) meet as required and report to EGPRS
- Use GitLab to manage/record developments and keep rigorous version control
- Provide updates/corrections to SINBAD entries, aimed at reaching TRG-quality
- Direct RSICC and NEA DB access – complete transparency and records
- Private, TF working space and submissions proposed to RSICC/NEA-DB - following the established distribution policies
- Operating within EGPRS mandate – reviewed within context of EGPRS renewal after 3 years to determine if this TF is achieving results
- Chair: Thomas MILLER (ORNL, US)

Measuring success

- TF SINBAD needs to report:
 - Inventory of updates to SINBAD entries, including types (e.g. corrections, new models, etc.) within a change-log
 - Submission of proposed updates of SINBAD to RSICC and Data Bank
 - Statistics on updates and distribution of **new** versions to users (data provided by RSICC and/or Data Bank)
 - Summary of detailed technical reviews and plans for entry improvement to meet TRG standards
- Demonstration of GitLab system SINBAD management for RSICC and Data Bank, which may use within distribution management systems
- Submission of improved SINBAD entries to the TRG

Next steps

- EGPRS to indicate support for this approach
- Participants must obtain licences from RSICC or NEA DB
- Deliverables are queued for the system
- Feedback on any errors/issues or requests can be recorded in the system
- **EGPRS to nominate leaders** – ideally with representation from multiple contribution areas
- **First meeting proposed in either week of 17 or 24 January**

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

