DE LA RECHERCHE À L'INDUSTRIE

SG43 Status WPEC 2020

Code Infrastructure to support a general nuclear database structure (GNDS)

Goals

- To define an interface (API) for reading/writing GNDS
- To define checks to “validate” new evaluations

Stretch Goals

- To develop and share implementations of:
  - Reading/writing tools for evaluation manipulations
  - Visualization tools
  - Tools to assist with uncertainty quantification

- To develop and share implementations of
  - Checking tools

API

- Discuss together
  - NEA SG-43
  - No API clearly agreed upon
- Implement separately
  - LLNL has two implementations:
    - FUDGE (Python)
    - GIDIplus (C++)
  - ORNL has an implementation in AMPX (C++)
  - LANL is working on an implementation for NJOY (C++)
  - CEA has begun working on an implementation in GALILEE (C++)
  - JAEA is planning an implementation for FRENDY

GNDS reading/writing implementations

Code Name	Institution	Status	Availability when / where
FUDGE	LLNL	Full Implementation	Now GitHub
GIDI+	LLNL	(Almost) Full Implementation (no Cov)	Now GitHub
AMPX	ORNL	Partial Implementation Fuller implementation	Now beta Soon ORNL site
GNDStk	LANL	In progress	2020 GitHub
GALILEE	CEA	In progress	2021? NEA
FRENDY	JAEA	Planned	2023? NEA

Checking

- Four documents have been collected from LANL, BNL and CEA with lists of checks locally implemented

WHAT IS NEXT ?

- Close SG-43 with a summary report on the status of different implementations
- Continue implementations as needed, by each institution, in their processing codes
- **Keep exchanges going** between institutions and other stakeholders
  - As an item in EG-GNDS meetings?
  - Specific WebEx EG-GNDS submeetings?
- Restart a new SG in a few years if need is felt

THANKS FOR YOUR ATTENTION