WPEC SG-43 Status Report

Code Infrastructure to Support Generalized Nuclear Database Structure (GNDS)

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Mandate

Goals

- Define an interface (API) and implementation to read/write GNDS
- Define checks to “validate” new evaluations

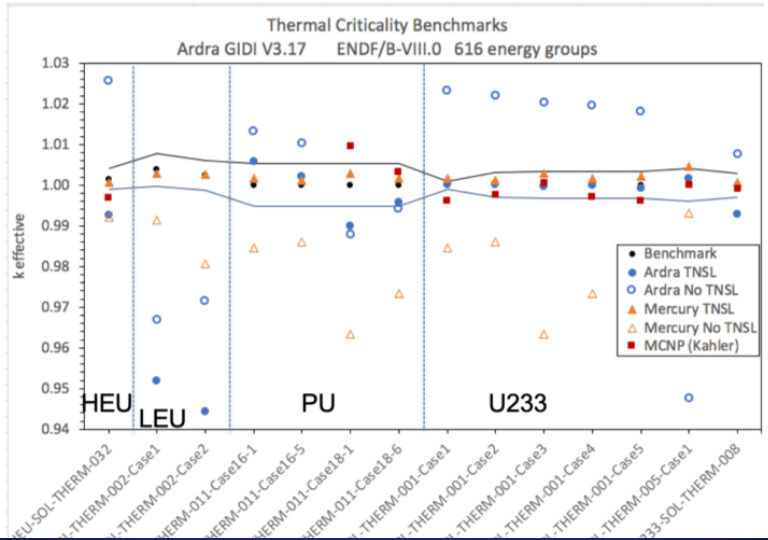
Stretch Goals

- 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 Status (as of May 2019)

- LLNL has two implementations of read/write API, compliant with GNDS 1.9 (ENDF/B-VIII.0)
  - Fudge (Python) https://github.com/LLNL/FUDGE
  - GIDIplus (C++) https://github.com/LLNL/GIDIplus
- ORNL has a partial implementation in AMPX (C++)
- LANL is writing a specification document for NJOY (C++)
- CEA will be starting its implementation soon in GALILEE (C++)
- JAEA is planning to use LLNL implementations, when available

Capability Demonstration
LLNL transport codes use GNDS data directly via GIDI API



Work Planned for 2019–2020

- Continue implementations as needed
- Extract actual APIs from working implementations
  - Post in NEA-Gitlab
  - Identify similarities/differences
- Start draft report
- Situation assessment before end of 2019