



Status of WPEC SG50

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33rd Meeting of the Working Party on International Nuclear Data Evaluation Co-operation

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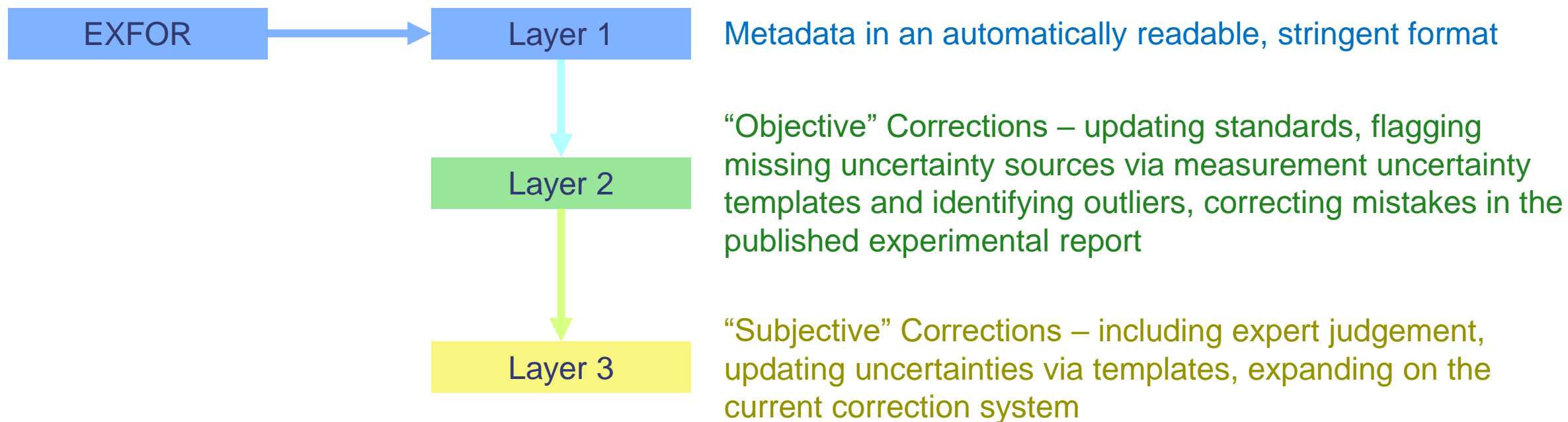
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SG50: Developing an Automatically Readable, Comprehensive, and Curated Experimental Reaction Database

- SG Chairs: Amanda Lewis (Naval Nuclear Laboratory) and Denise Neudecker (LANL)
- Monitor: Arjan Koning (IAEA)
- Our goal is to create a new database for experimental data that will build on EXFOR and will store “subjective” corrections to the data sets made by people other than the authors.



Meetings Held

- “Unofficial” kick-off meeting September 14-15, 2020
 - Presentations on EXFOR, current work on parsing EXFOR, user needs, experimental metadata
 - Split up into 5 sub-subgroups (keywords and metadata; NRDC-coordination; codes and database; corrections and quality flags; output tests)
- Meeting about the Requirements Document November 12, 2020
- Keywords and Metadata SSG meeting February 9, 2021
- NRDC-Coordination SSG meeting March 1, 2021
- Codes and Database SSG meeting April 6, 2021
- Presentation at NRDC 2021 meeting May 7, 2021

Overview of Requirements Document Progress

- The requirements document is in progress, it currently is 26 pages with 31 contributors
- We have split up the experiment information into the categories:
 - Observable
 - Bibliographic Information
 - Incident Particles
 - Background(s)
 - Detector(s)
 - Sample(s)
 - Resolution Function
 - Outgoing Energy
 - Reference Data
 - Corrections/Environmental Effects
 - Correlations to other Datasets
- We are working on compiling experimental metadata and attribute lists for each of the categories
 - The lists started with the current EXFOR keywords and codes
 - The measurement uncertainty templates were consulted to add more metadata
 - Examples will be used to find missing or confusion attributes

Overview of the Examples Created

- Examples were created by 5 participants for experiments measuring:
 - (n,f)
 - ν -bar
 - Activation
 - Transmission
 - $(n,n'\gamma)$
 - Fission yields
- Through these examples we have uncovered some issues that are being corrected
- We will translate the examples into a simple and general JSON format, then use them to determine the type of database and format we want to use

Deliverables

- **Requirements document (2021-2022)**
 - What metadata we will store
 - What keywords/values we will use
- Specifications document (2022 – 2023)
 - What type of database we will use
 - What data types or structures we will use
- Codes to produce each layer
 - **Example files for layer 1 (2021 – 2022)**
 - Example files for layer 2 (2022 – 2023)
 - Example files for layer 3 (2023-2024)