



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

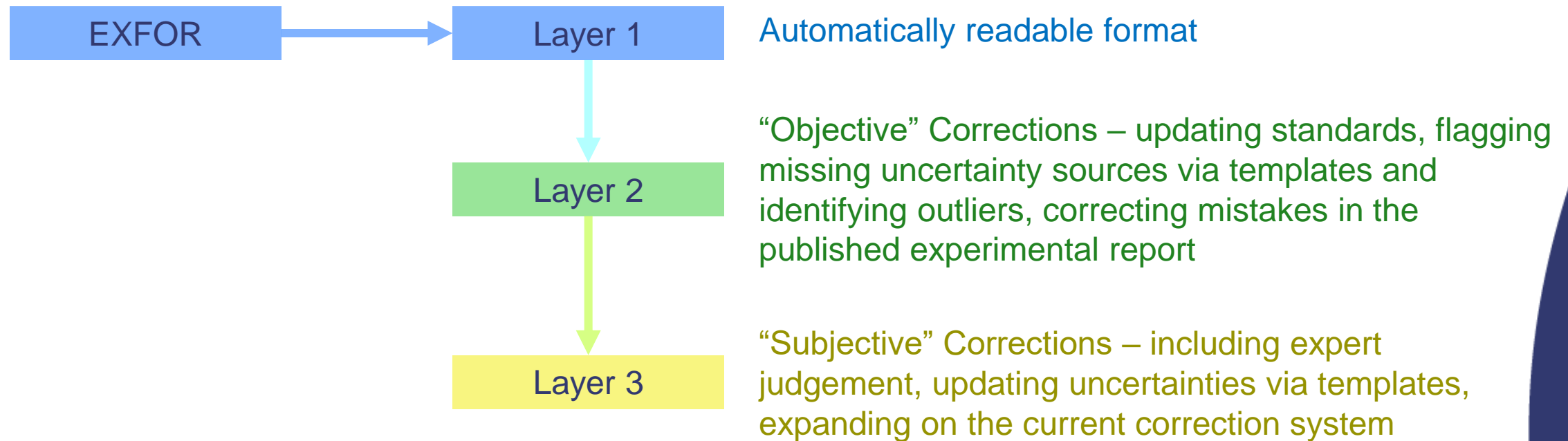
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CSEWG Covariance Session
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WPEC SG50: Developing an Automatically Readable, Comprehensive, and Curated Experimental Reaction Database

- Our goal is to create a new database for experimental data that will build on EXFOR and will allow for corrections to the data sets.
- Approved at the May 2020 WPEC meeting
- 57 members (and counting) from 11 countries and the NEA and IAEA, representing 5 libraries
- Coordinators: A. Lewis (NNL), D. Neudecker (LANL)
- Monitor: A. Koning (IAEA)

The subgroup will develop a 3-layer experimental reaction database

- Create a format and structure for the database
- Produce example files for each layer and publish conversion codes



Kick-off Meeting September 14-15, 2020

- Overview of current and previous work
 - Including 4 different EXFOR access/conversion codes
- Discussion of user needs
 - Machine readability, quality indicators, information about experimental conditions and corrections, realistic covariance matrices, correlations between data sets
- Decisions on scope for example files
 - CIELO isotopes and Neutron Data Standards observables
- Creation of smaller groups to tackle different tasks

SG50 has a lot of work to do in 3 years

- Big Deliverables
 - Requirements document
 - Specifications document
 - For each layer: Code to convert to layer format, example files to test
- Five smaller groups are being developed
 - Keywords/Metadata
 - NRDC Coordination
 - Database Structure and Code Creation
 - Example File Testing
 - Correction Procedure

Meeting November 12, 2020

- Progress was made filling out the requirements document
 - More types of information added
 - The needs for charged particle induced reactions were brought up
 - The structure (entry/subentry vs entry/data set) was discussed
 - A decision was made to include “obvious” mistakes in the experimental reference in the Layer 2 objective corrections
- The type of database that will be used was discussed
 - This conversation will be continued in a smaller meeting
- The X4Lite code (V. Zerkin, IAEA) will give all of EXFOR in well-parsed json files, this is a great place to start
 - We will need to parse free text and characterize with new keywords
 - We will continue to build on the EXFOR database in coordination with the NRDC

Future Plans

- We will try to have smaller meetings for several sub-subgroups in the next six months:
 - Keywords/Metadata
 - Database Structure and Code Creation
 - NRDC Coordination

- Our next full SG50 meeting will be in May, during the week of WPEC meetings
 - We will have reports from the SSGs listed above