

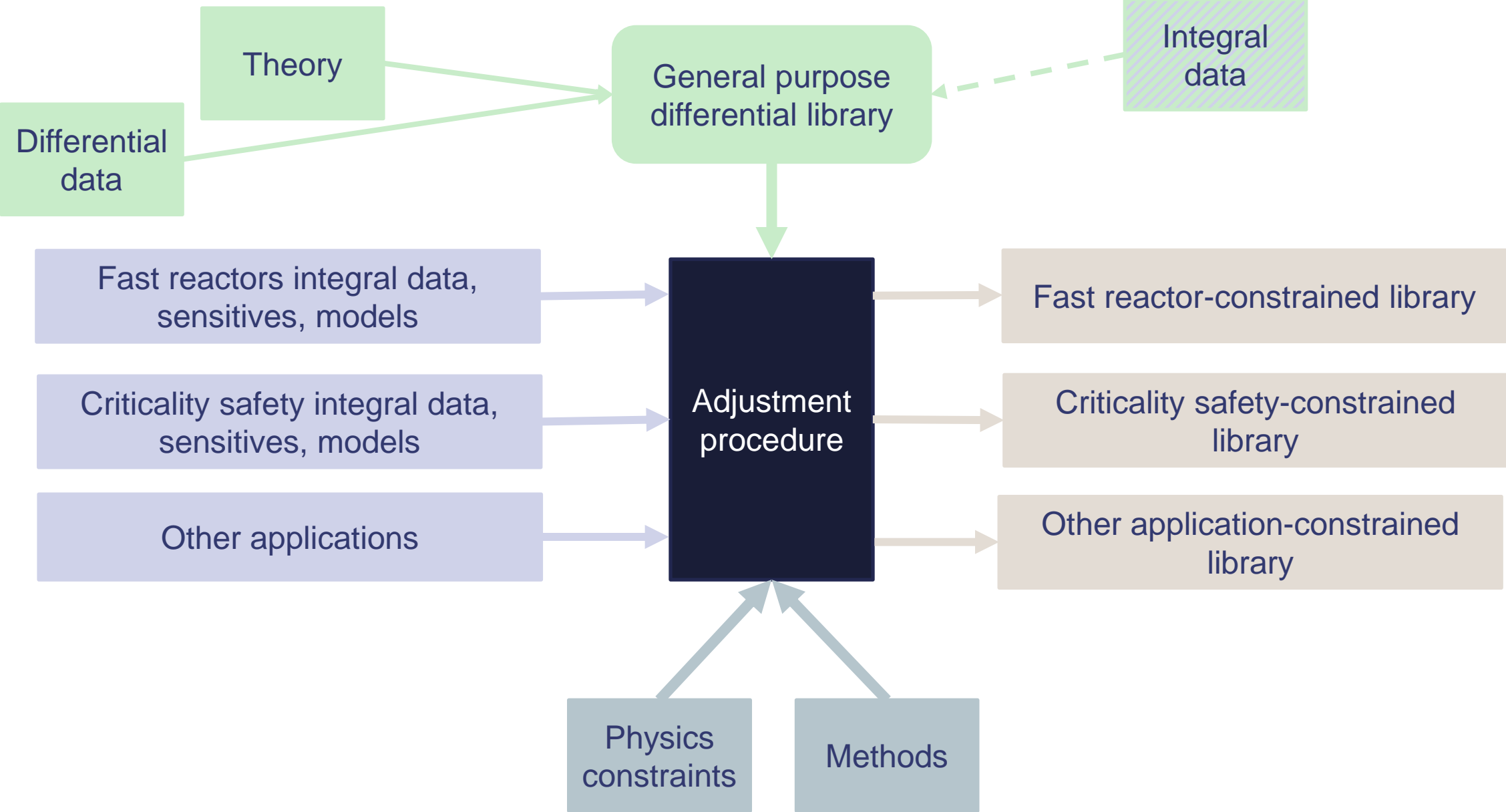


Stumbling Blocks, Needs, and Available Resources for Creating Adjusted Libraries

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The process of data adjustment



For a trusted, consistent framework for developing constrained libraries, we want:

Differential Data Inputs

- Reasonable covariances for all relevant observables
- Understanding of how integral data has been used in differential evaluations

Adjustment Methods

- Physics constraints
- Good fitting methods
- Available tools?

Integral Data Inputs

- Impactful integral data
- Sensitivity profiles
- Database and formats
- Accurate models and uncertainties

Adjusted Libraries

- Formats and database?
- Understanding of applicability
- Methods and tools for verification, validation and comparison

This session will cover all of the major topics

- Ian Hill – Integral data databases and missing uncertainties
- Catherine Percher – Assessing past data and designing new experiments
- William Marshall – TSUNAMI and concerns with adjustment
- Andrew Holcomb – SCALE and data adjustment
- Amanda Lewis – Summary of remaining stumbling blocks

Differential Nuclear Data Issues

- We want reasonable covariances for all relevant observables in the integral experiments.
 - How to assess impact when relevant observables don't have covariances?
- How do we incorporate the information that integral data were used in differential evaluations?
 - Covariances between isotopes may be important, how do we determine them?

Adjustment Method Issues

- How can physics constraints be incorporated consistently and accurately into the adjustment method?
- Should the nuclear data community create a set of widely available tools that ensure correct methods and constraints?
- What are the best fitting methods?

Integral Data Issues

- How do we ensure that we have impactful integral data for the wide variety of applications?
- Do we need a single consistent database for integral data?
 - Can we develop a format that will allow for full documentation of integral experiments?
 - How can we improve the user interaction with the integral data models?
- How do we get (and store) sensitivity profiles?
- How do we ensure that we are using accurate models of the integral experiments and have accurate uncertainties on the models and observables?

Adjusted Library Issues

- Should we develop a consistent format for adjusted libraries?
 - What is the minimum level of documentation needed?
 - How do we store the correlations between isotopes?
- How do we define and understand the limits of applicability for each adjusted library?
- How can we develop tools for verification and validation of the adjusted libraries, and how can we effectively check and compare them?