



Comments on WPEC Subgroup 30

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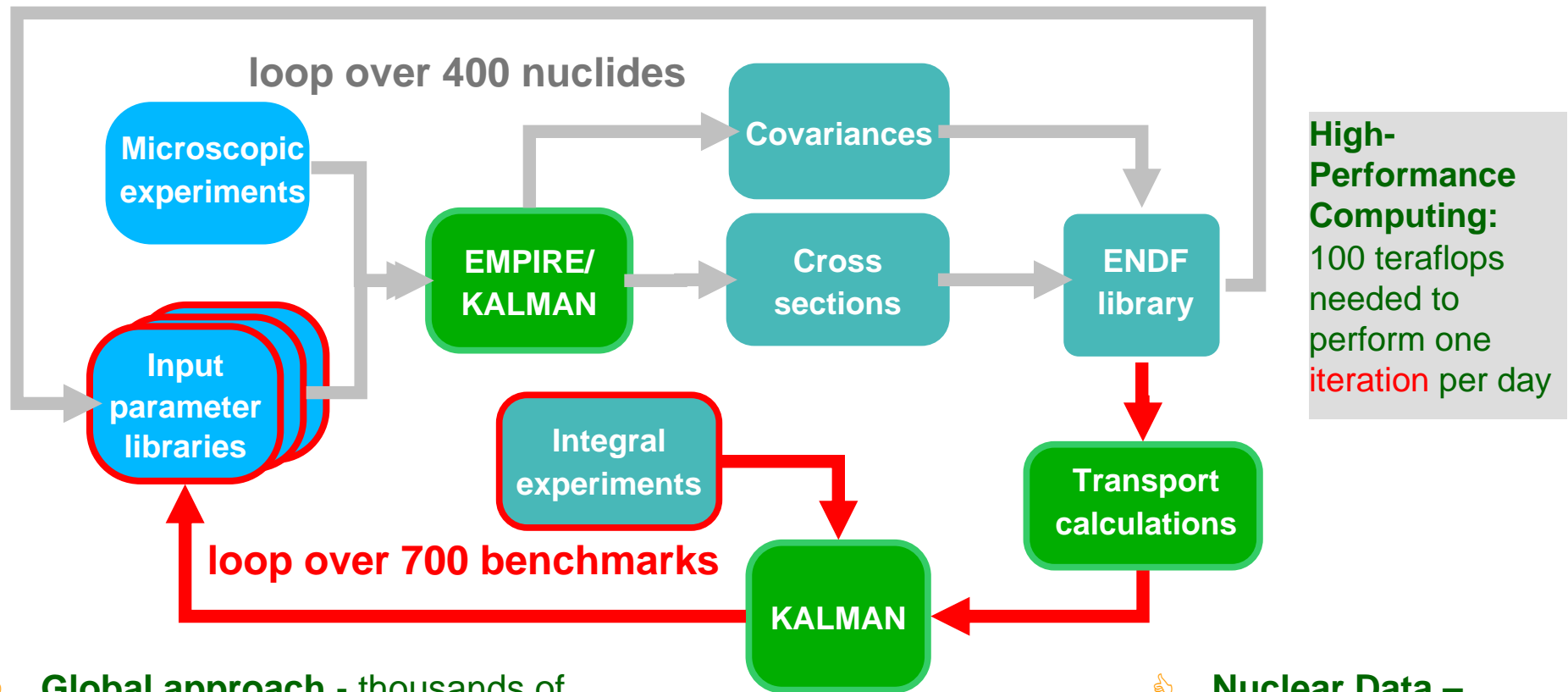
Role of EXFOR in Evaluations

Modern evaluations heavily rely on several quality databases:

- Atlas of Neutron Resonances
 - 1st edition in 1955, 5th edition in 2006 (Mughabghab, Elsevier 2006)
- RIPL library of input model parameters
 - Three IAEA CRPs since 1994, RIPL-3 release in the pipeline
- Integral experiments
 - International effort to review criticality safety benchmarks and produce recommended sets, ICSBEP, last edition 2007
 - Similar international effort initiated for reactor physics benchmarks
- Microscopic experiments
 - EXFOR library is important and unique, but it was never reviewed
 - WPEC SG 30 represents a type of effort needed to achieve this

Global Nuclear Data Initiative (GNDI)

Proposed by BNL-LANL at the AFCI Workshop, Washington DC, 2006



👍 **Global approach** - thousands of microscopic and integral measurements used simultaneously to constrain model parameters

👍 **Physics** - improved set of model parameters with covariances, global assessment of nuclear reaction theory

👍 **Nuclear Data** – consistent, more accurate, and validated cross sections with covariances



Opportunity for EXFOR - Covariances

- EXFOR plays essential role in evaluation work
- Covariances may dominate the field for next 5-10 years
- This provides real opportunity to improve EXFOR
- What should be done?
 - Establish active communication with evaluators/users
 - Encourage reporting of problems and ensure fast response
 - Make use of actual analysis of experimental data needed for covariance evaluations
 - Gradually move to “quality” EXFOR