The future: a path towards effective feedbacks to evaluations
(**new Subgroup SG46**):

- **Clarify of the respective role of nuclear data evaluators and users in the utilisation of integral experiments**. Definition of a widely agreed protocol for the use of integral experiments in evaluations and in V&V

At present a very hot topic!

- **Optimization of the choice of integral experiments** (a priority in order to avoid compensations):

  Selecting and prioritizing experiments and in particular those that provide separate physics effects:

- separate burn-up reactivity swing components
- separate capture from scattering in reactivity effects both for actinides and FP.
- n-leakage experiments for scattering data assessment
- etc

- **Need of improvement and extension of covariance data (cross correlations, angular distributions, secondary neutrons from inelastic scattering, photon production data, delayed neutron data).**

- **How to assess the reliability of covariance data: are there criteria beyond mathematics requirements? Close interaction with the new SG44 : « Investigation of Covariance Data in General Purpose Nuclear Data Libraries »**

- **One issue that deserves further investigation is the understanding of how to exploit induced (i.e. a-posteriori) correlations between nuclear data and experiments.**

- **Investigate how to perform generalized adjustments to provide unambiguous feedbacks to evaluators (e.g. PIA et al).**

- **Explore the potential of the Continuous Energy Assimilation (i.e. beyond multigroup data) . Recent results (Aufiero et al) provide interesting feasibility indications.**

- **Definition of updated target accuracies for design, operation and fuel cycle parameters. Assess impact of present covariance data on accuracy requirements (case of Pu-239 fission)**

➢ Define without ambiguity the application domain of any adjusted evaluation/ library and a-posteriori covariance matrix.

The notion of "**representativity**" of an experiment does help since it **goes beyond the simple comparison** of one experiment with one specific reference system by means of the "similarity" of the associated sensitivity profiles S_R and S_E. The "**representativity" factor r_{RE}** in the case of one experiment is given by:

$$r_{RE} = \frac{\left(S_R^{+} D S_E\right)}{\left[\left(S_R^{+} D S_R\right)\left(S_E^{+} D S_E\right)\right]^{1/2}}$$

This type of expressions, can be used to plan new experiments and to verify the range of applicability (in terms of capability to **reduce significantly the uncertainties** of a set of reference systems) of the adjustment performed.