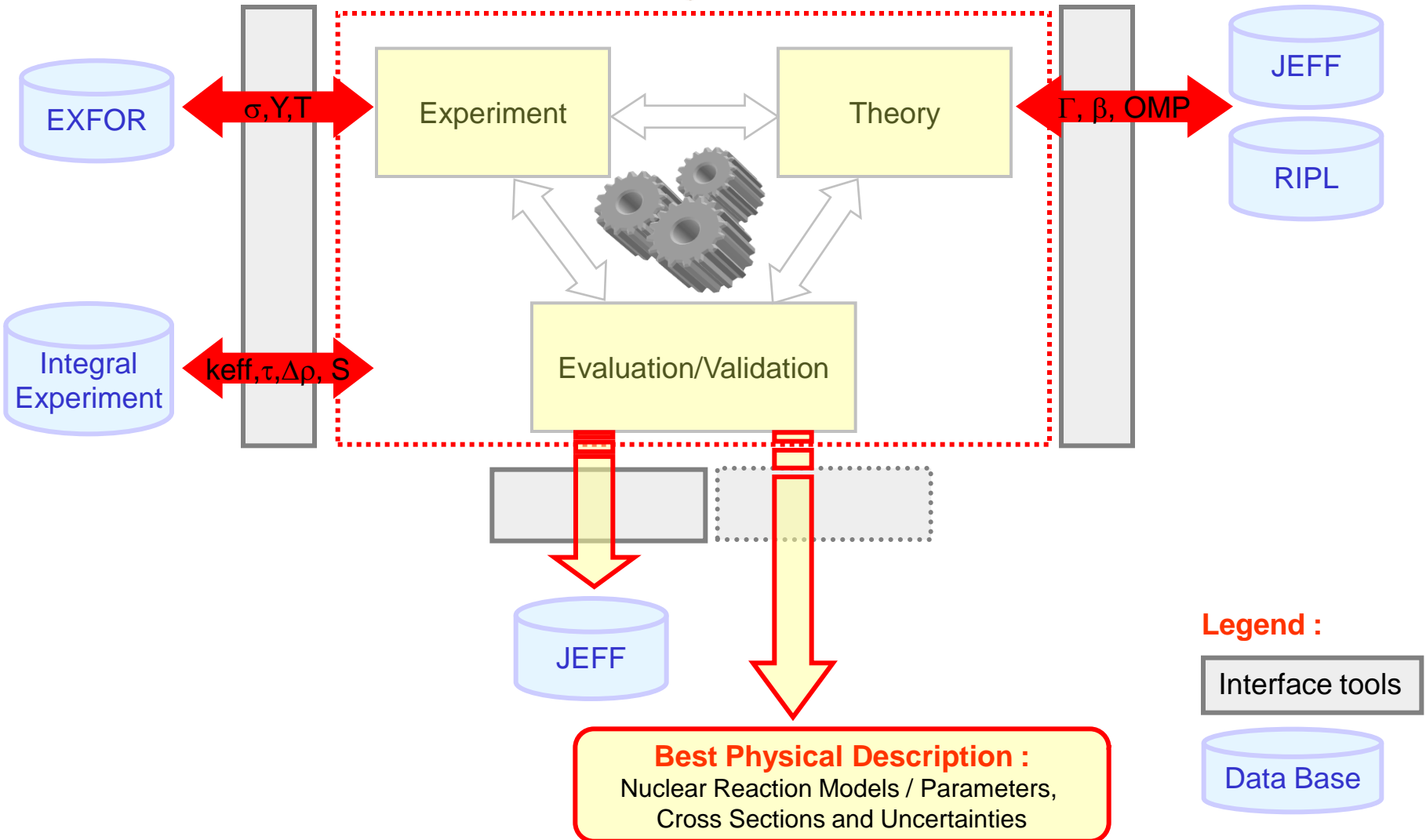

Conrad-Galilée

CEA/DEN

DNT project

Conrad

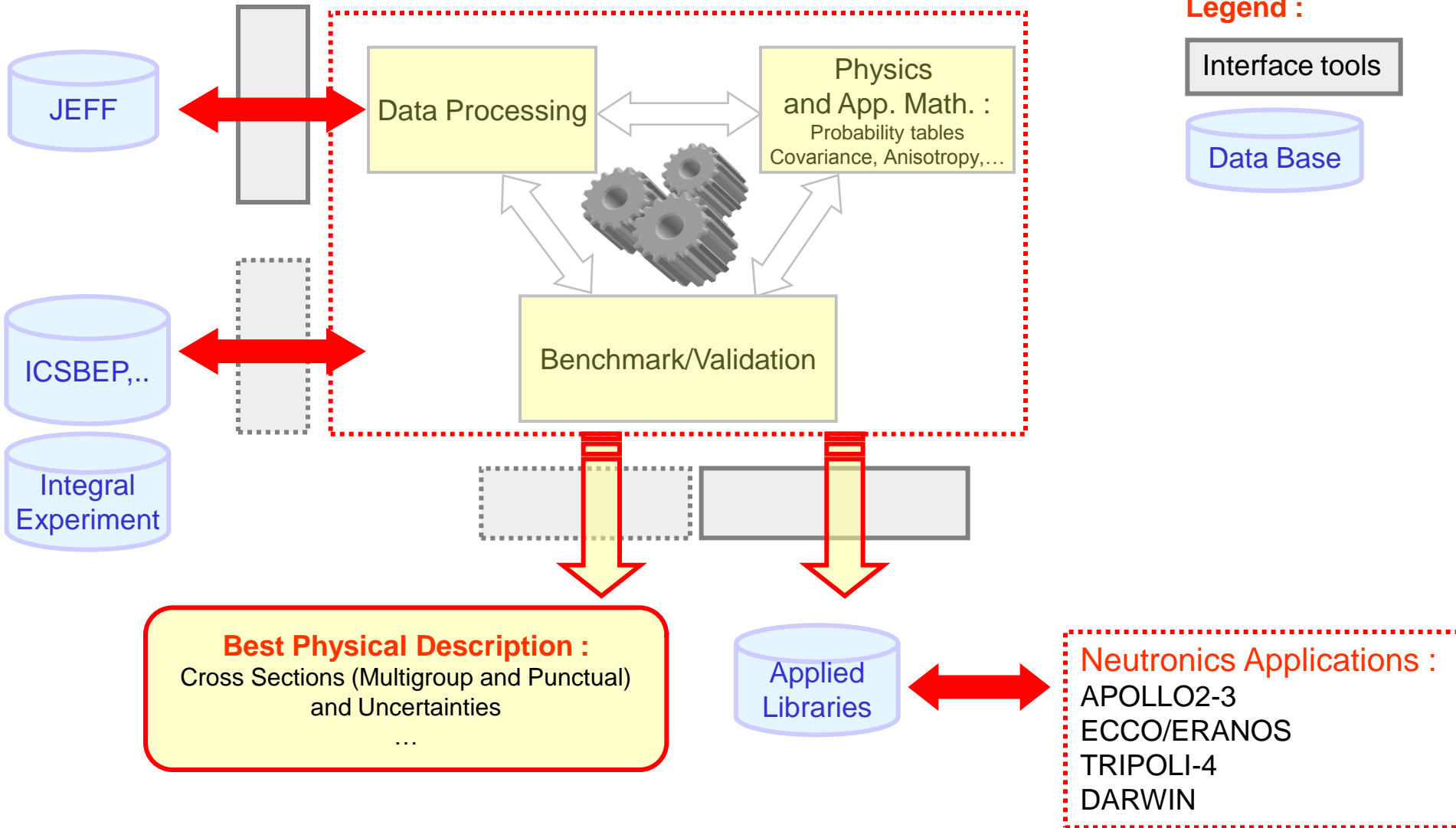


Galilée

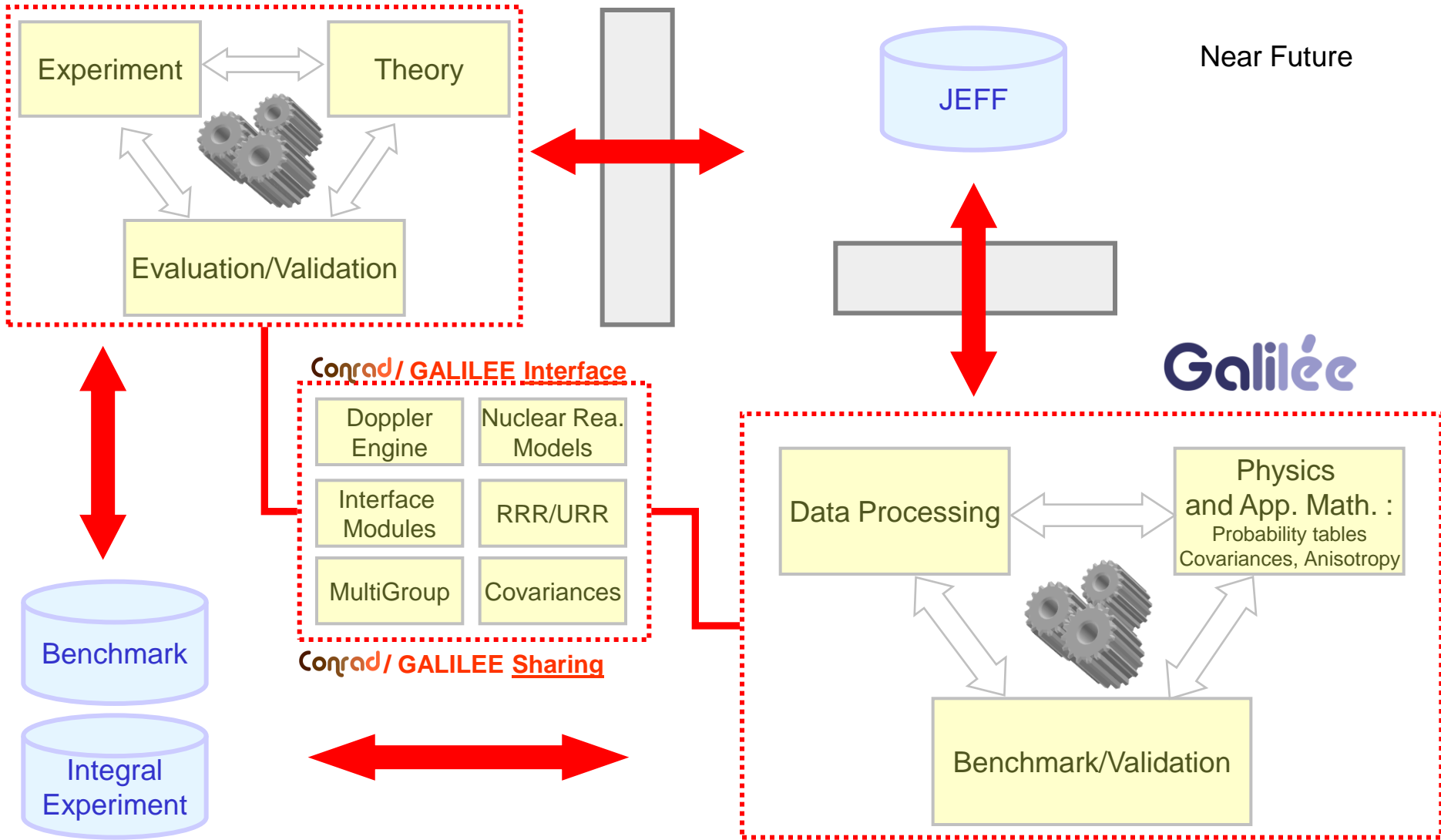
Legend :

Interface tools

Data Base



Conrad



Conrad is an evaluation code and GALILEE is devoted to nuclear data processing, but,

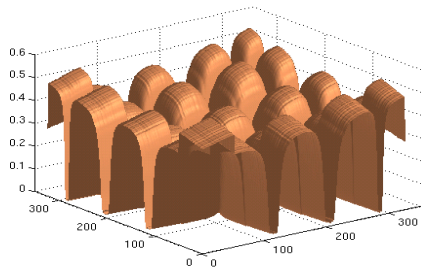
Common physical models :

- Doppler
- OK theoretical Cross sections with nuclear reaction models
- RRR/URR : average parameters, probability tables
- covariance representations

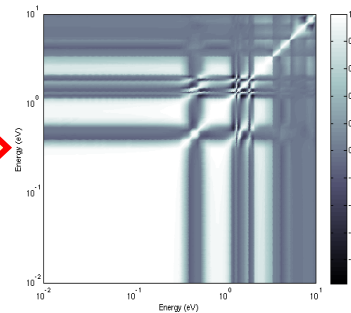
Common applicative scope :

- nuclear data representation :
 - Either from nuclear reaction models, punctual or multigroup treatment
- nuclear data libraries
 - ENDF I/O formatting
 - processing tools
- Reactor Physics
- Uncertainty propagation

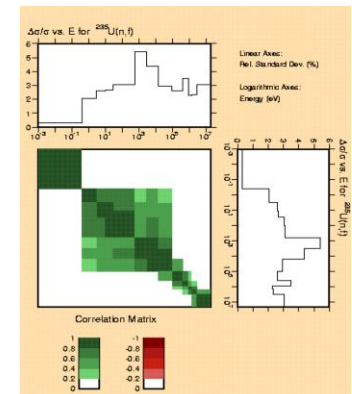
The long road to Uncertainties



Experiment



Evaluation



Application

Conrad / GALILEE in a clear common framework :

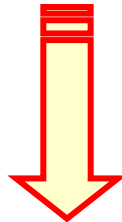
To keep the maximum physical properties of nuclear data :

1. FORMAT should not be restrictive
2. allowing a better description of nuclear data : models and parameters as much as possible

To permit automatic data flow from nuclear data analysis to processing to application :

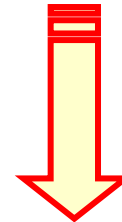
A new Evaluation should be processed in a limited time to be exploitable in Reactor Physics :

1. For validation purpose : launch benchmarks to see the effect of this new evaluation
2. For the evaluation process it self :
get calculated integral experiments results directly
with sensitivities and calculated values



Physics Interest :

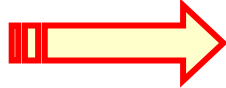
- Use of Integral Experiments
- Full Monte Carlo (see Galilée Talk)
- New representation of Nuclear Data
- Covariance
- R&D



QA Interest :

- automatic
- reproducible

Interface tools

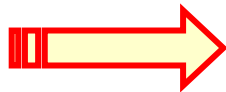


No Generic Interface Tool

Each evaluation code (Conrad, Sammy, Refit, Talys,...) and each processing code or system (Njoy,Calendf, Galilée,...) contains its own dedicated interface tools :

- not usable by other program
- multiple programming language
- waste of time and efforts
- QA ?
- what happens when the format is moving ?

Data Base



Each database **MUST** provide : a database management system
It is a collection of software used for organizing information, and generally has input, verification, storage, retrieval, and combination functions.

“A database is a collection of information that is organized so that it can easily be accessed, managed, and updated.”
“In database systems, the information is retrievable for each application from a shared file that is not dependent upon the application programs for its structure”

Are EXFOR, RIPL, Nuclear data libraries, ... modern database ?
Can we afford any longer the use of obsolete format ?
Is it the role of NEA to provide/create new format with a modern database ?