

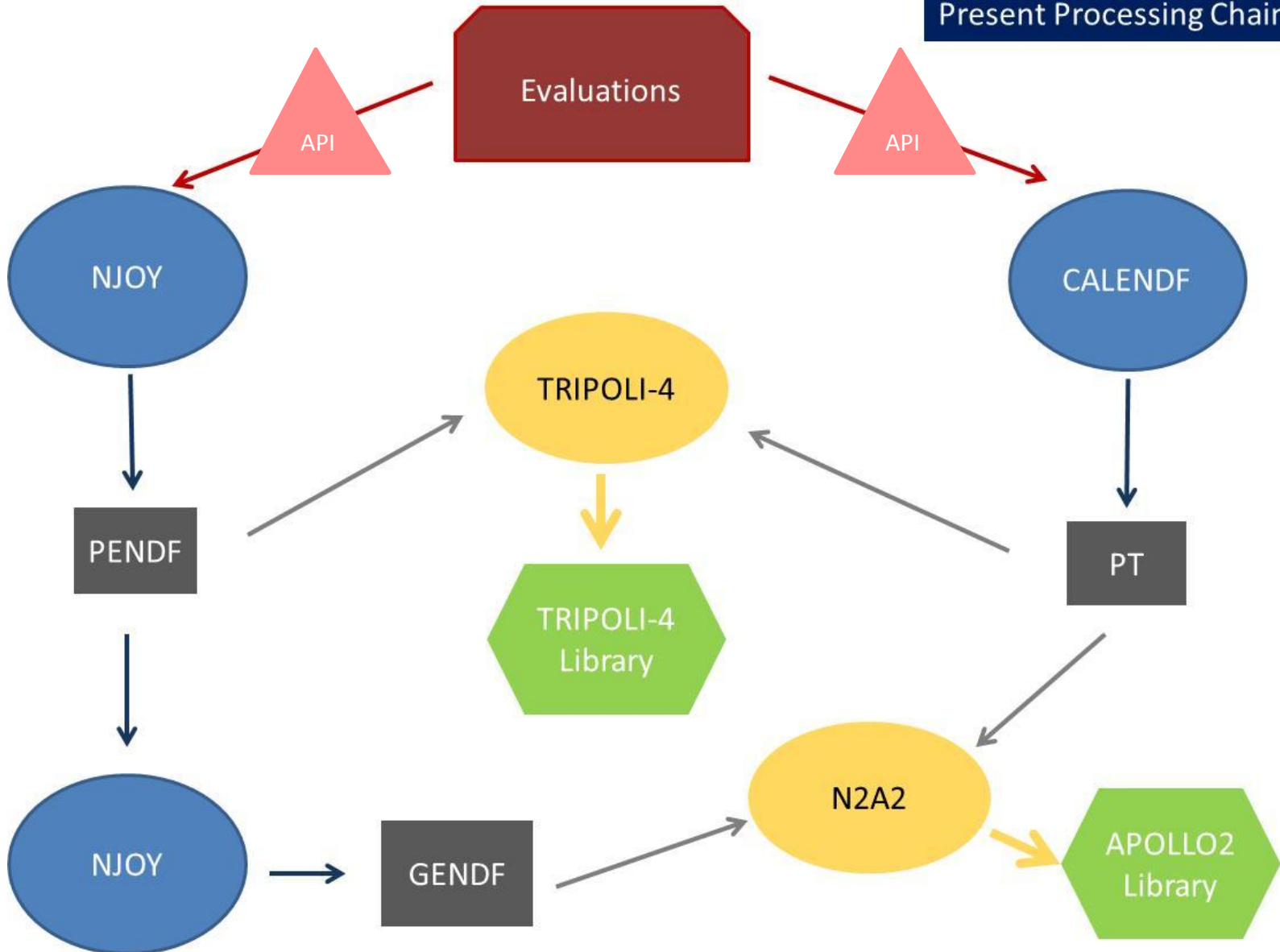
DE LA RECHERCHE À L'INDUSTRIE



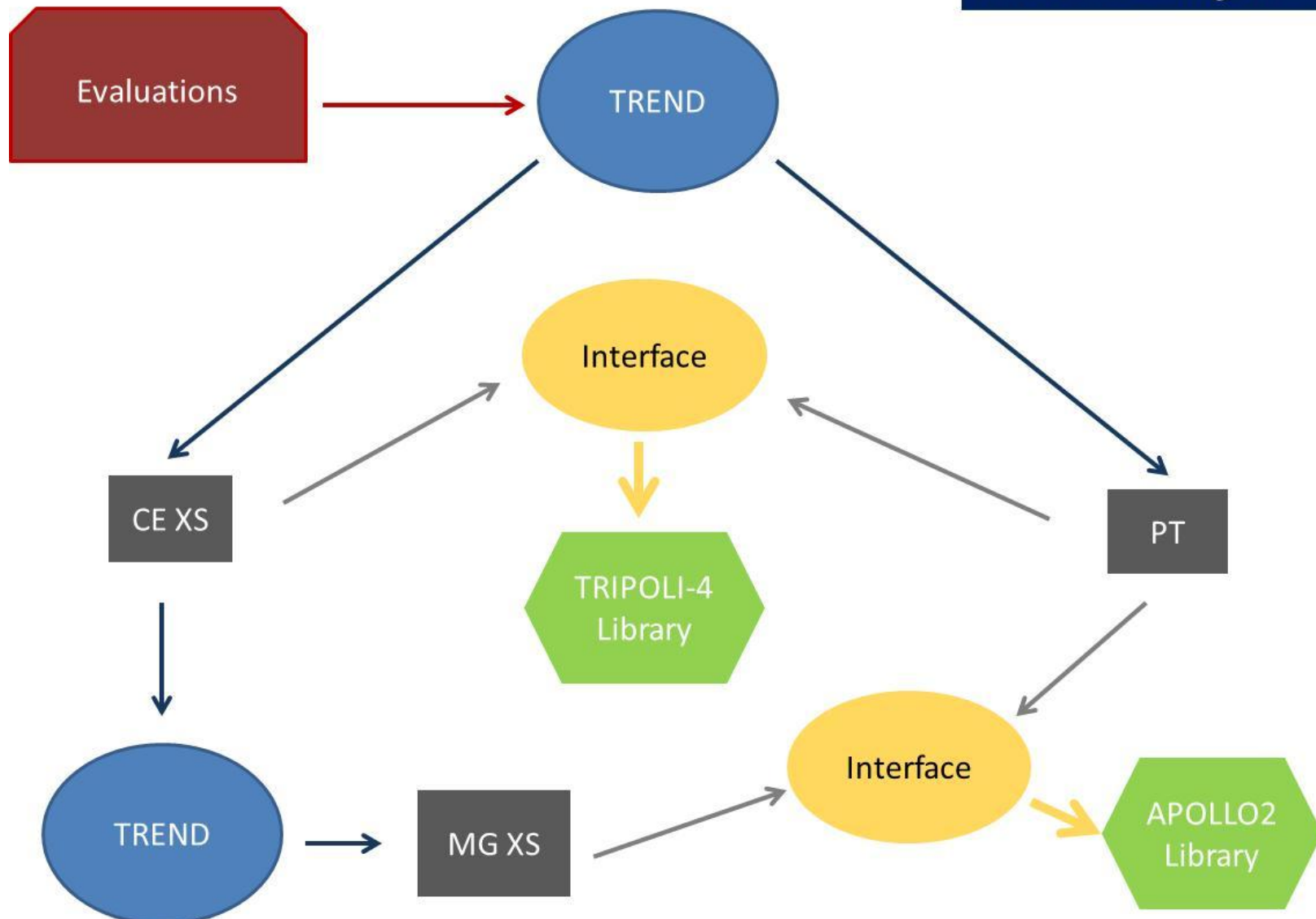
WPEC/SG-38

CEA/DEN Contribution

Present Processing Chain



Future Processing Chain



1. **Avoid redundant information (mass, Q value, MT=1, ...). For example, Q values can be re-calculated from the masses. The masses could be taken directly from ENSDF**
2. **Consistent mass file for the library (Q reaction calculation, deposited energy)?**
3. **A « generalized » covariance format between MAT number, MT and MF**

1. For a resonance, give the widths of any number of exit channels (with eventually the total width for checking)

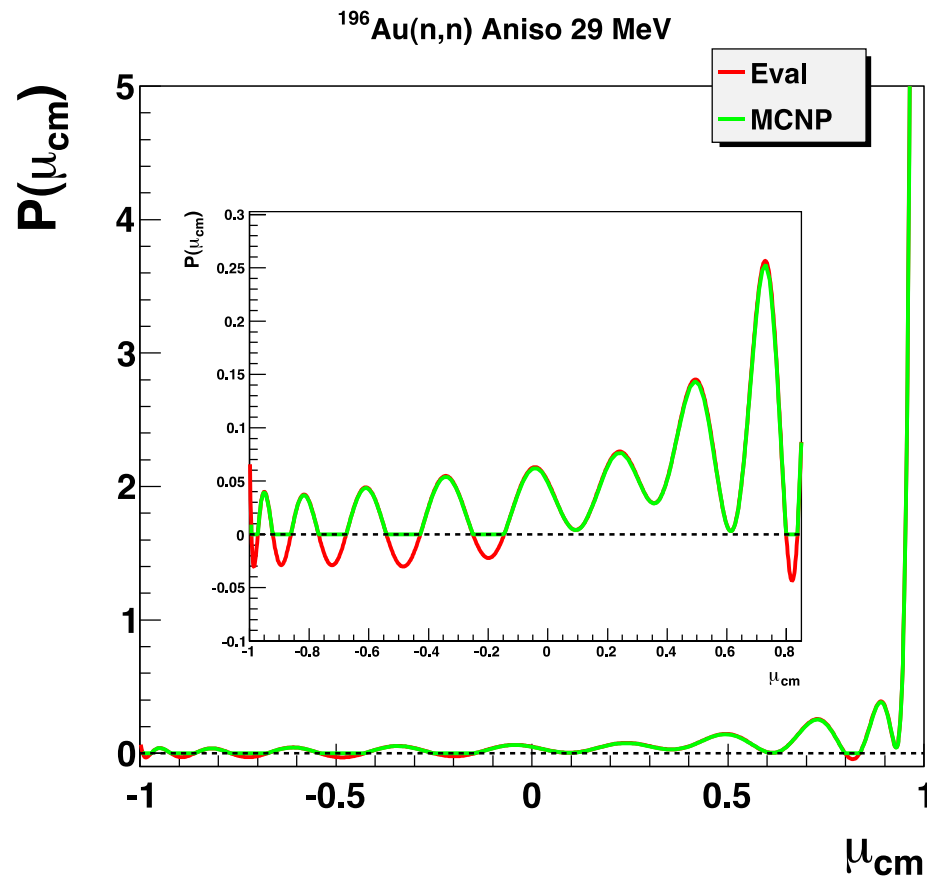
$$E, \Gamma_{n,l}, \Gamma_{\gamma}, \Gamma_{f1}, \dots, \Gamma_{fk}, \Gamma_{\gamma f}, \Gamma_{nf}, \dots, \Gamma_{\text{incl},1}, \dots, \Gamma_{\text{incl},k}, \Gamma_{\text{incl},\text{cont}}, \dots$$

2. Have the same description for the Resolved Resonance Range and the Unresolved Resonance Range
3. Describe the R matrix resonance parameters in the same way for R matrix, Reich- More and Breit-Wigner formalisms

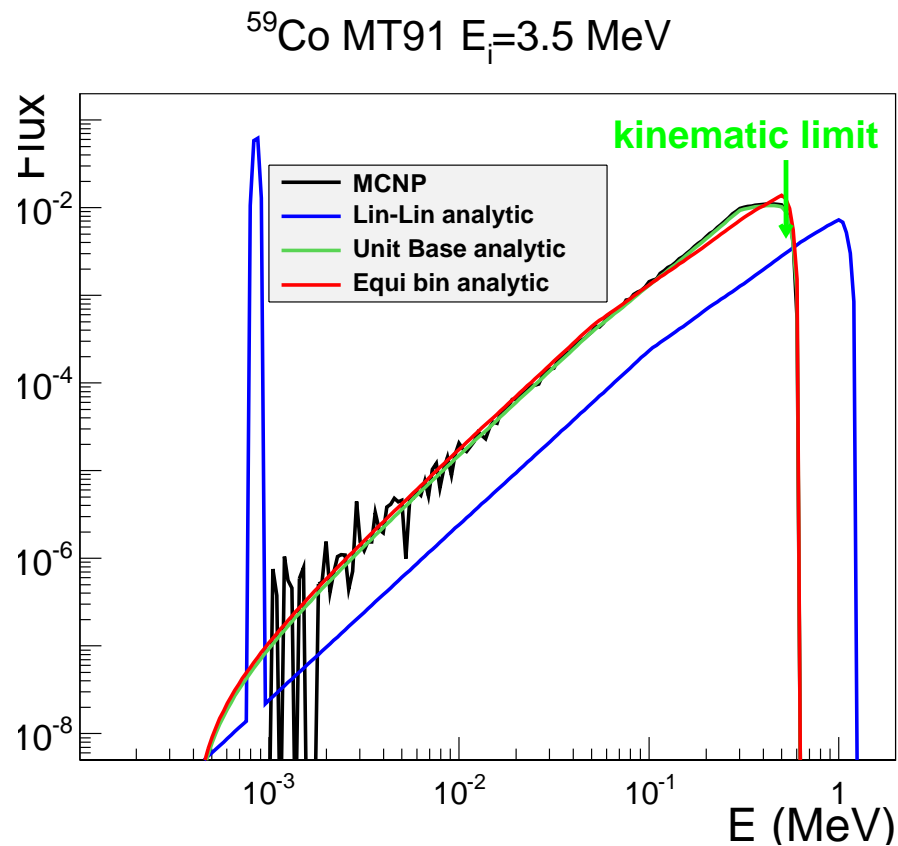
4. For a given resonance family, associate a distinct fission ν to each fission channel (different from one resonance to another ?)
5. Indicate whether resolved resonances given above the resolved/unresolved range frontier are artificial or not
6. Add a energy dependent scattering radius R
7. Add a description in terms of « distant level parameters » ?

8. Describe resonance width with a Γ^2 law with non-integer freedom degree
9. Be able to describe a correlation between partial widths for a given resonance ?
10. Link with modern high energy nuclear data codes in order to clearly separate the compound and direct components
11. Add « pseudo » resonances instead of average parameters ?

1. Legendre Polynomials coefficients → Negative probabilities



1. Use of lin-lin interpolations leads to non physical energy values (select law 21-25)



1. **MF33/MF34 : Correlation ?**
2. **Positive definite matrices ?**
3. **Reduce the number of formats for MF33 ?**