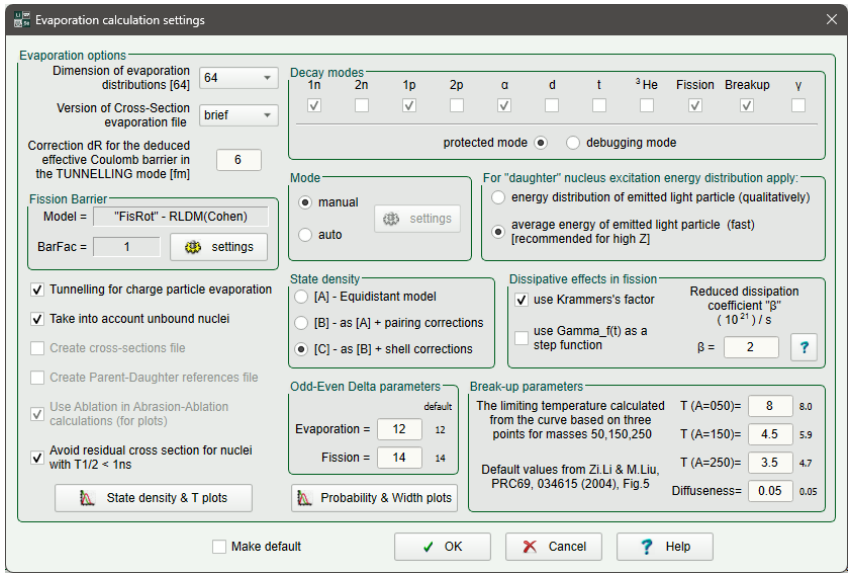
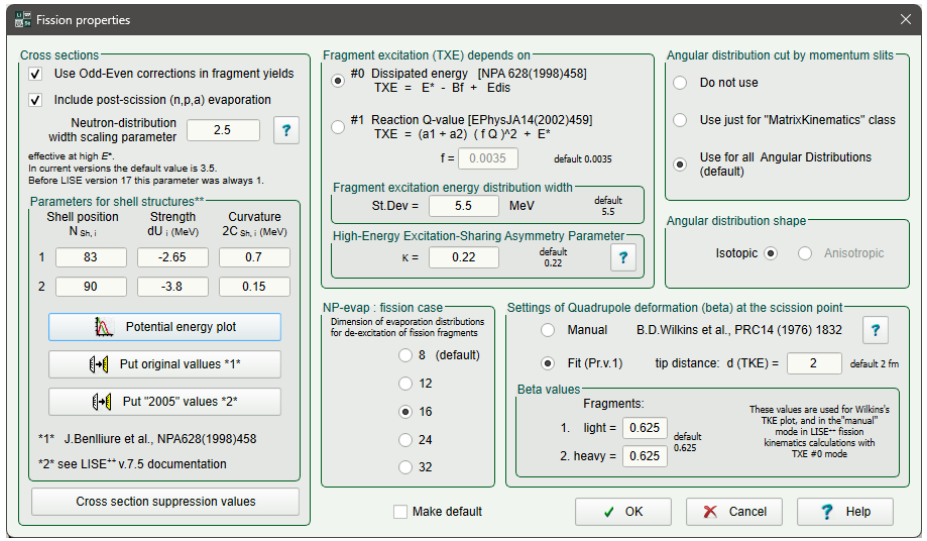
LISE++ *cute* v.17.18.7: recommended AF settings

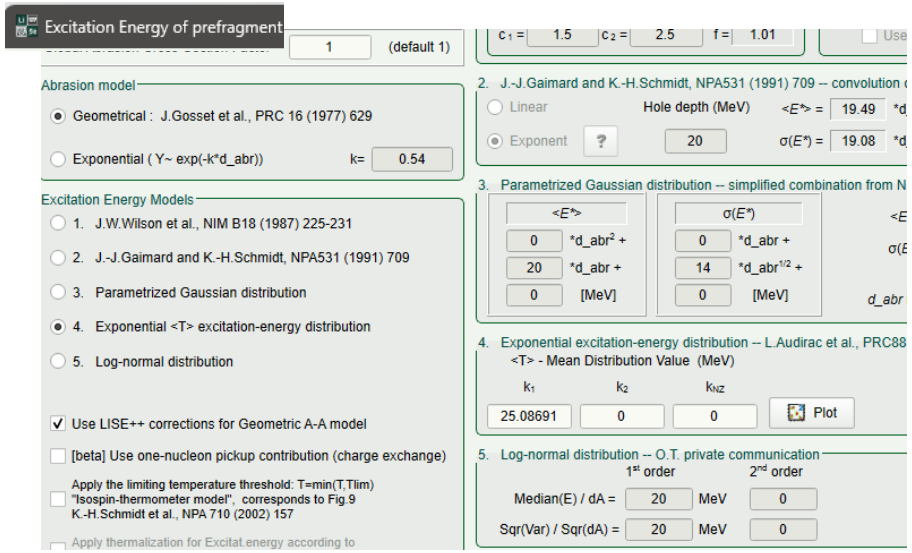
From 01/09/26

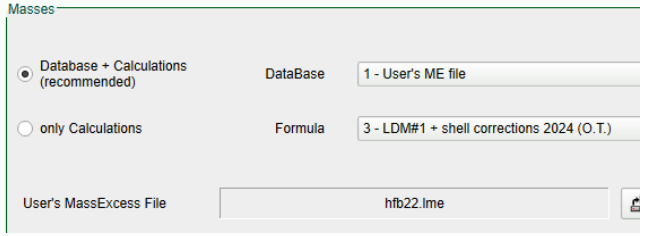
- New recommended AF settings : dialogs
- How to apply new fission settings
- Comparison RIKEN user table with 3EER results
- Impact of multi-step reactions
- High-Z 3ERR settings
- IFN (Initial fissioning nuclei) analyzer

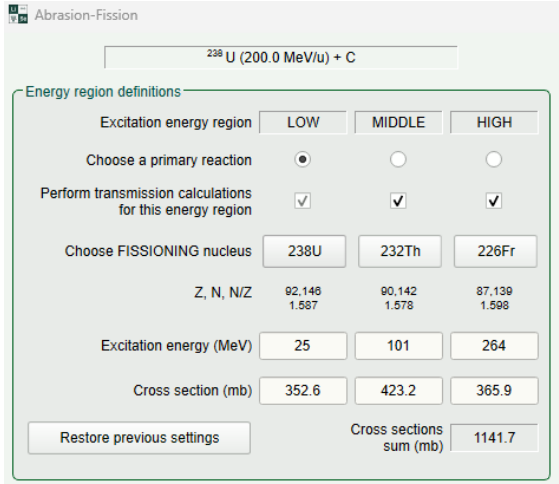
LISE++ cute v.17.18.7: recommended AF settings









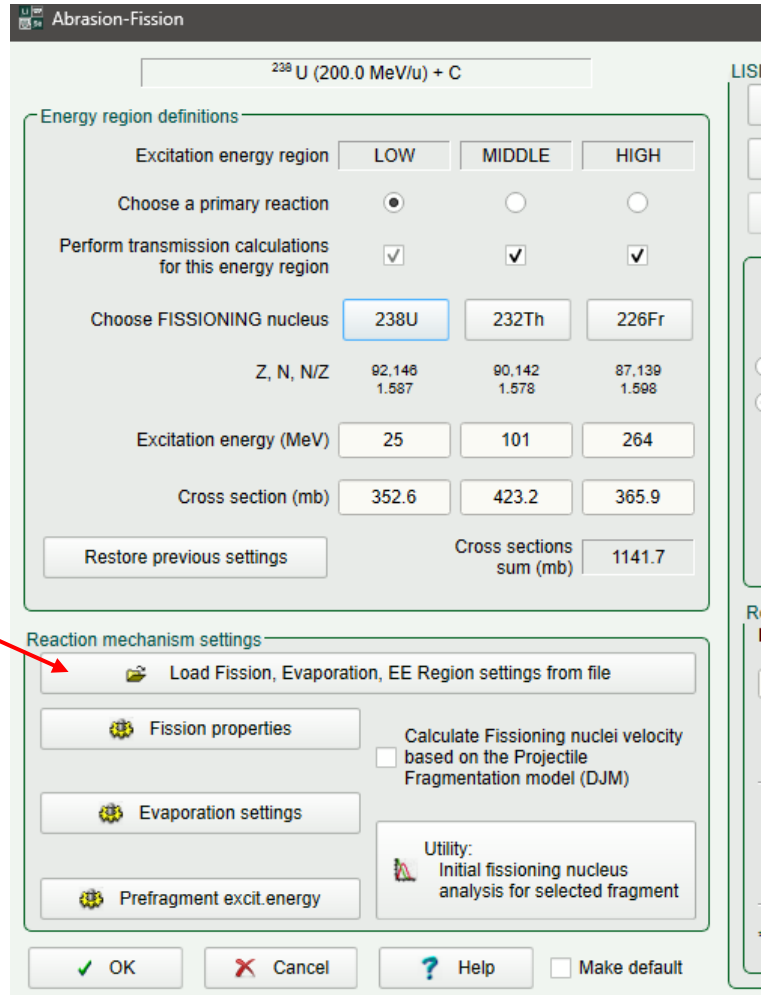


How to merge new Fission settings

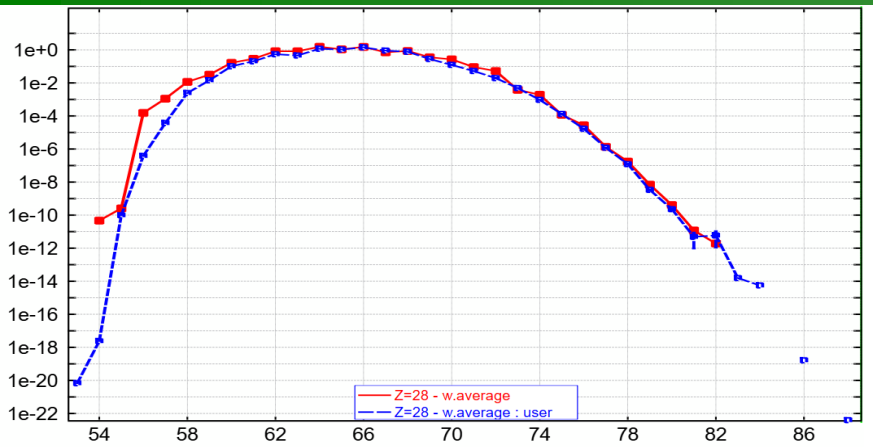
new fission settings: <LISEcute>\files\examples\afission\2026\FissionSettings_2026.lpp
new fission highZ settings : <LISEcute>\files\examples\afission\2026\FissionSettings_2026_HighZ.lpp

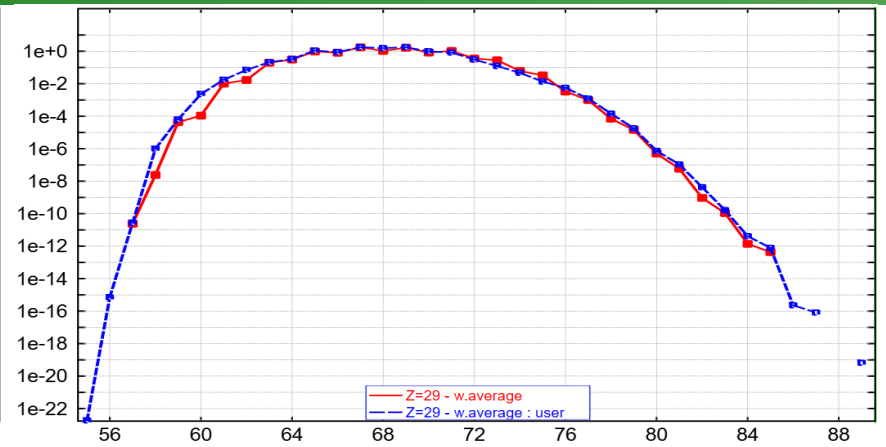
1. Use “Load Fission, …. Settings from file” in the Abrasion-Fission dialog

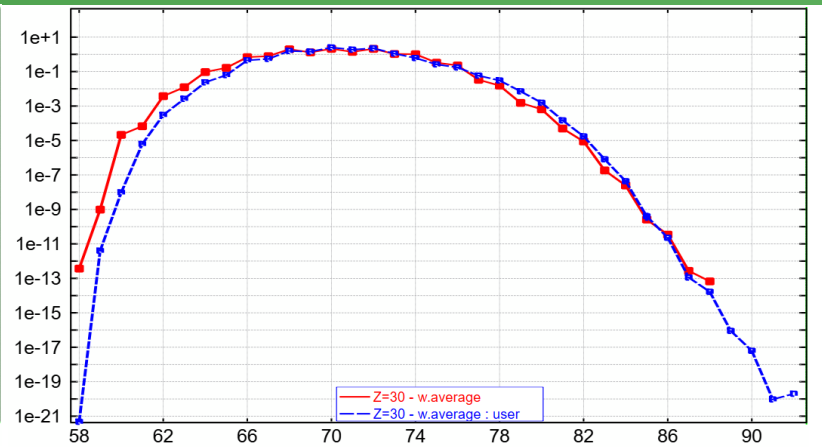
2. A. Run “FissionSettings_2026.lpp” file in LISE.
   B. Erase all blocks in this files
   C. Use “Append blocks from file..” to merge your configuration file

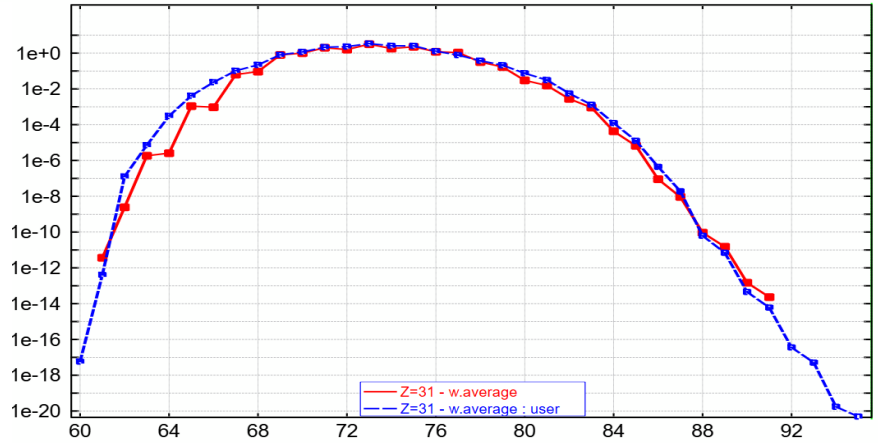


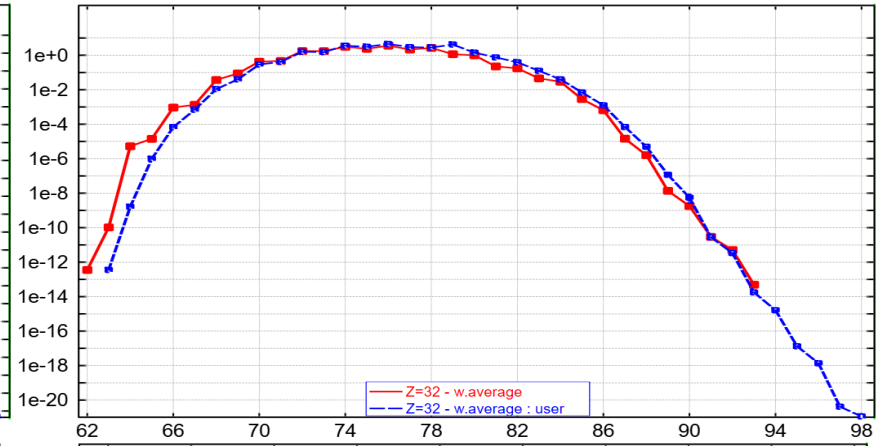
LISE 3EER recommended vs. RIKEN table: Z=28-36

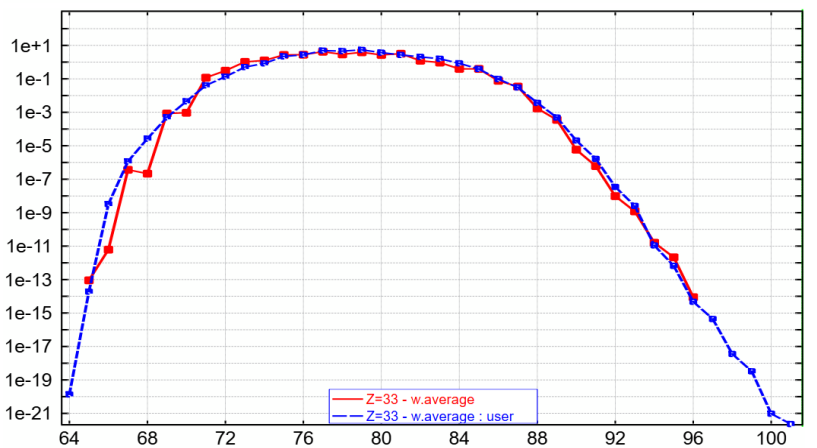


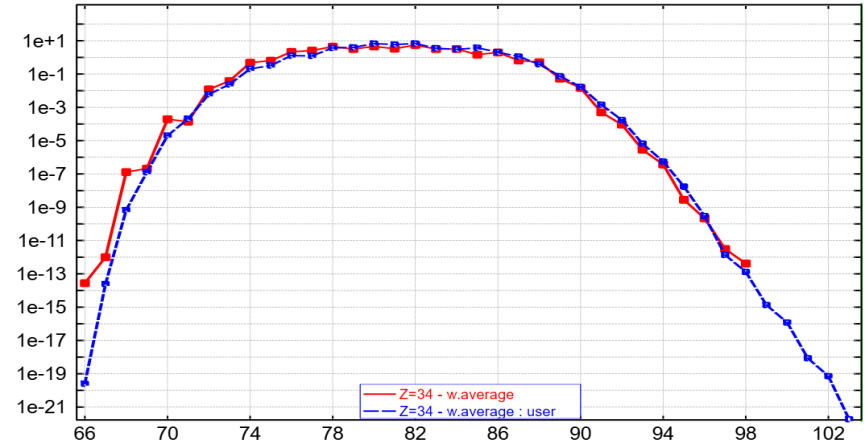


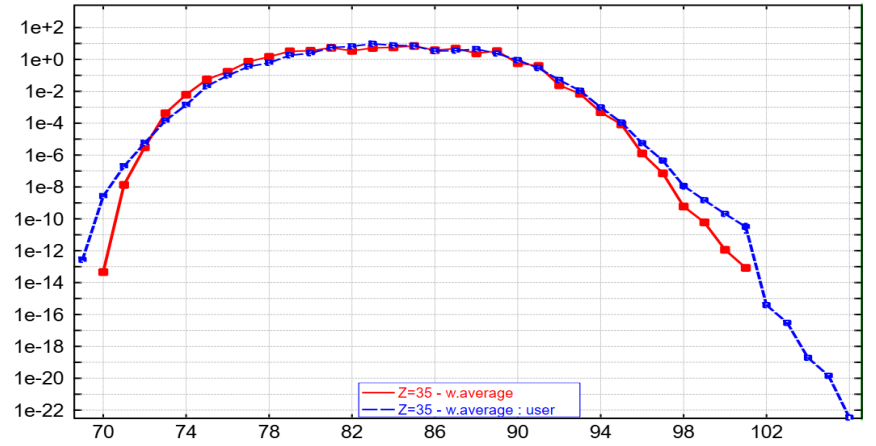


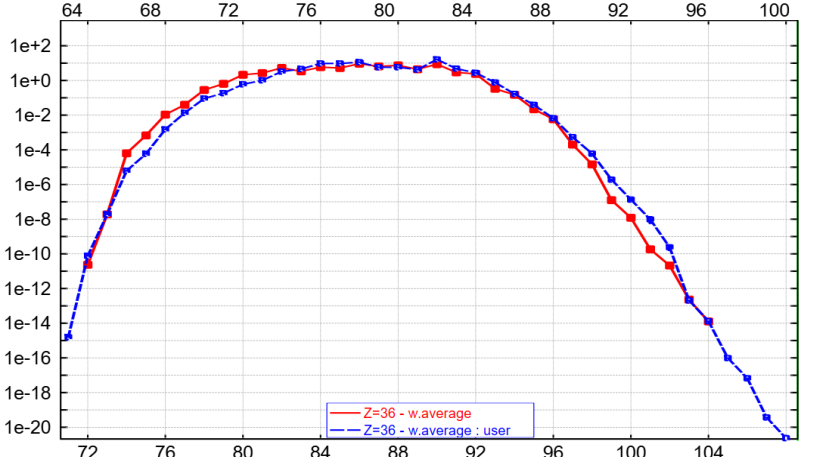




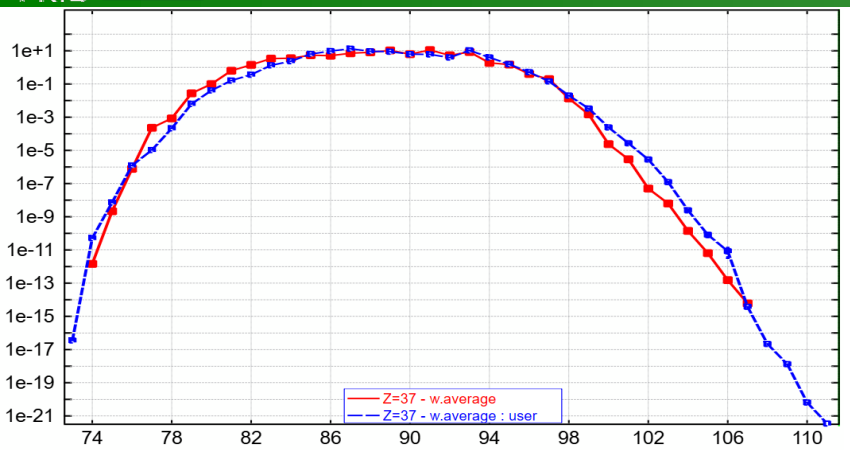


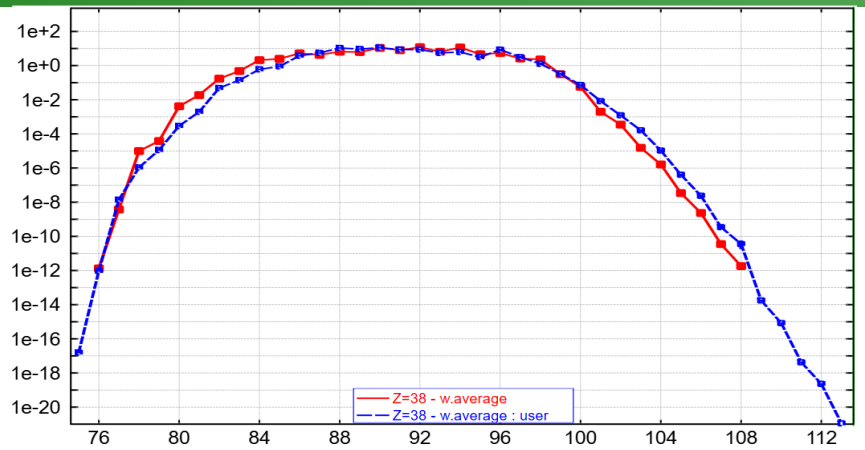


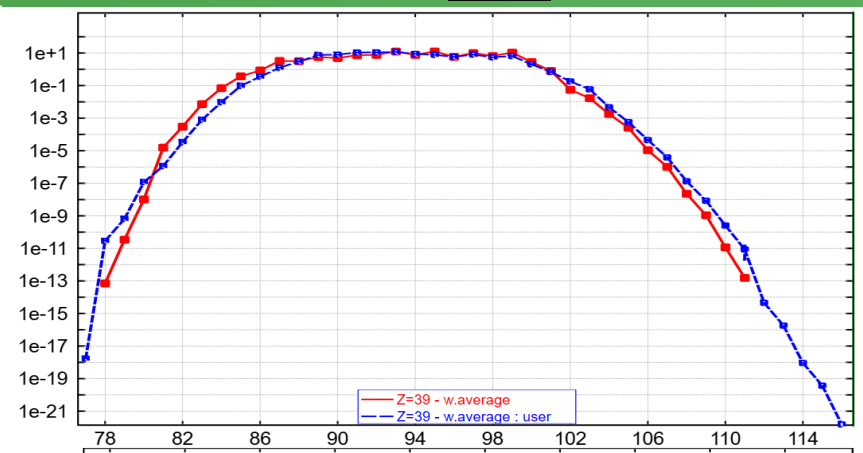


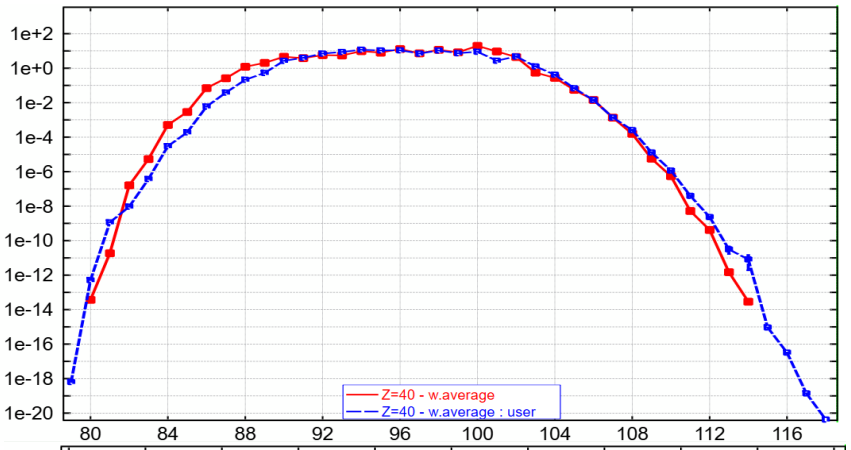


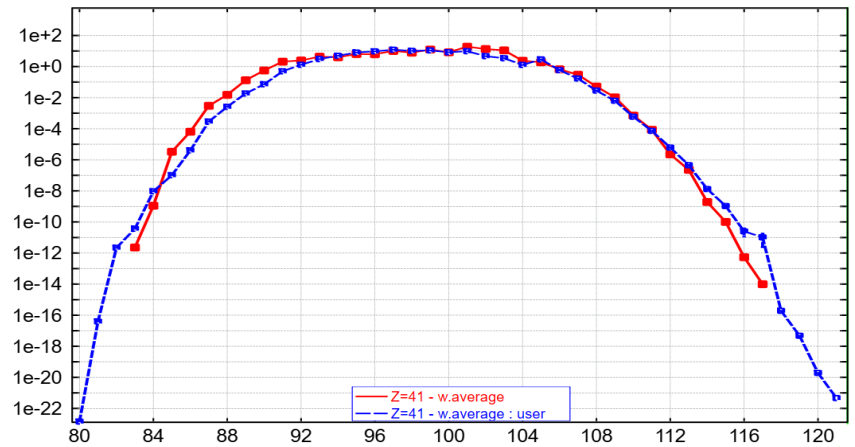
LISE 3EER recommended vs. RIKEN table: Z=37-45

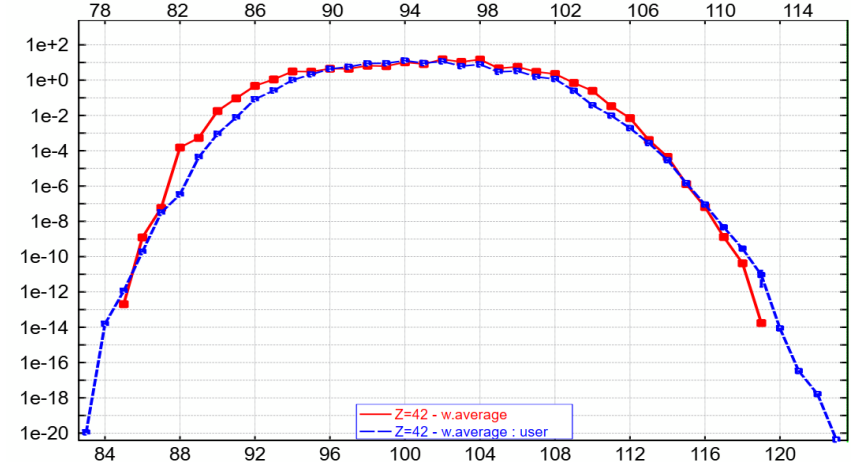


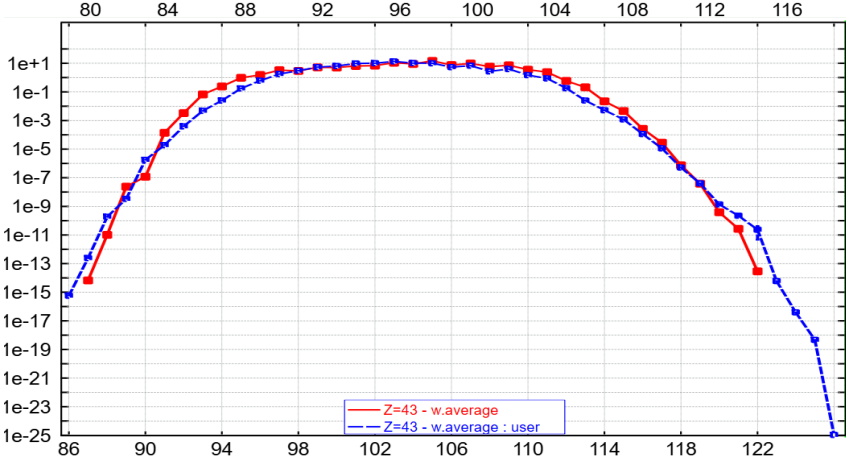


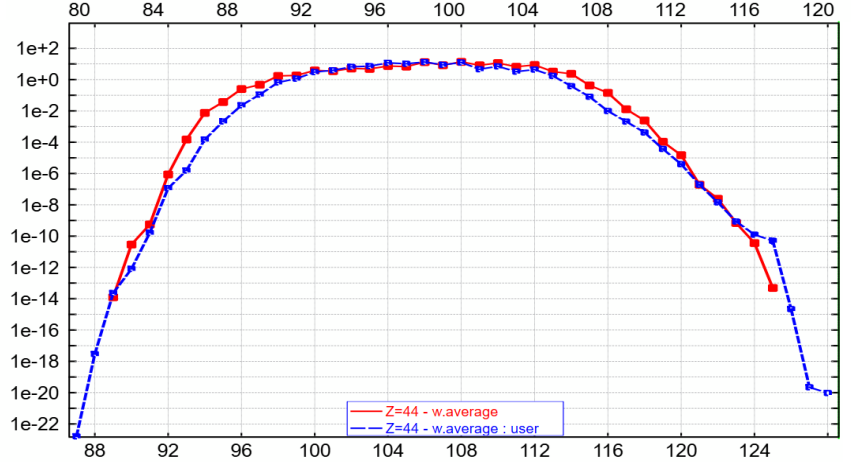


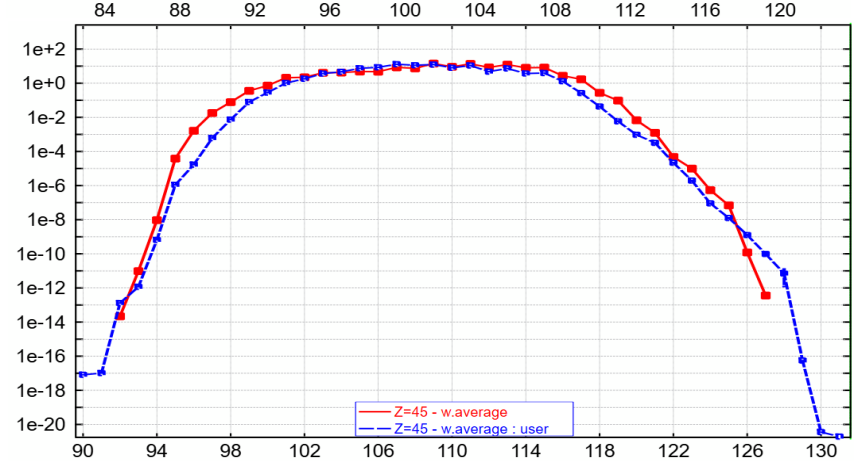




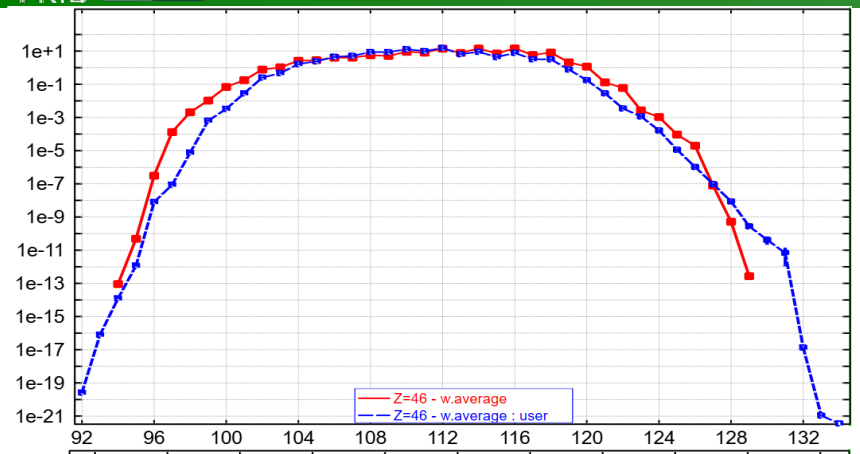


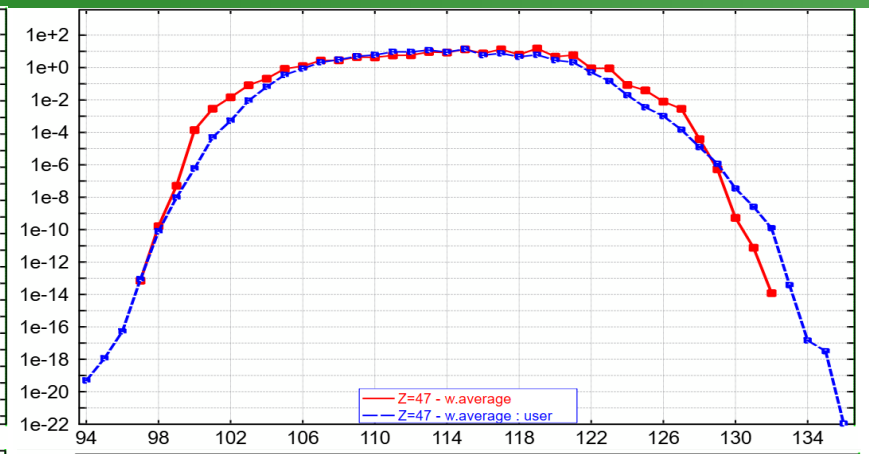


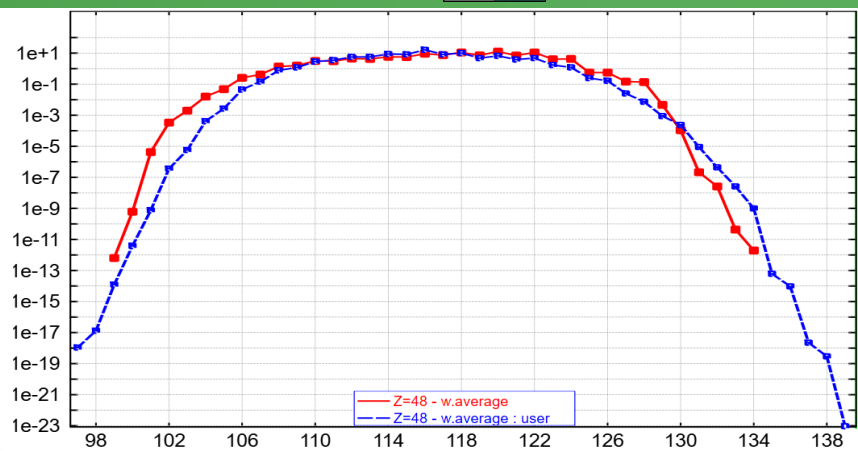


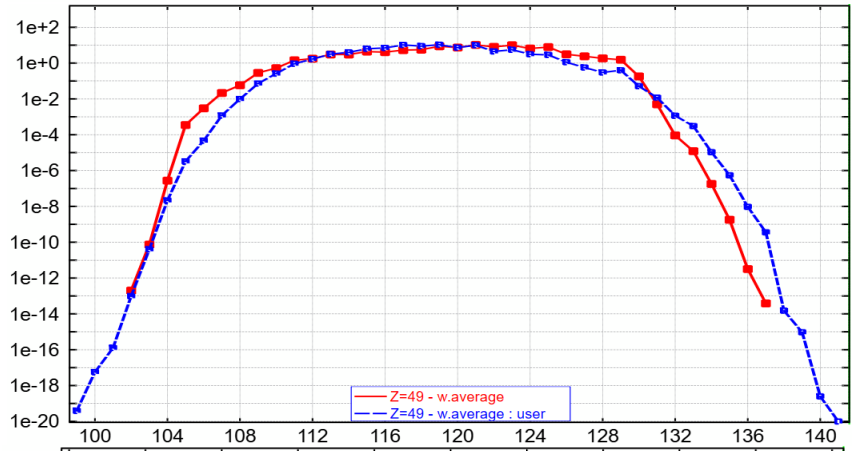


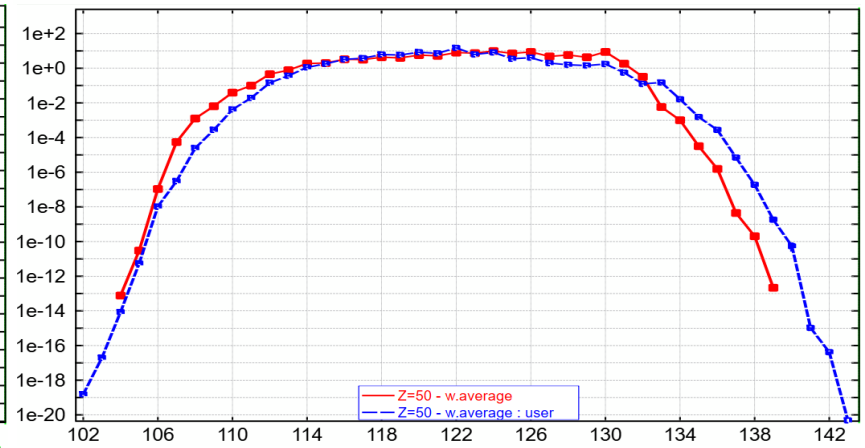
LISE 3EER recommended vs. RIKEN table: Z=46-54

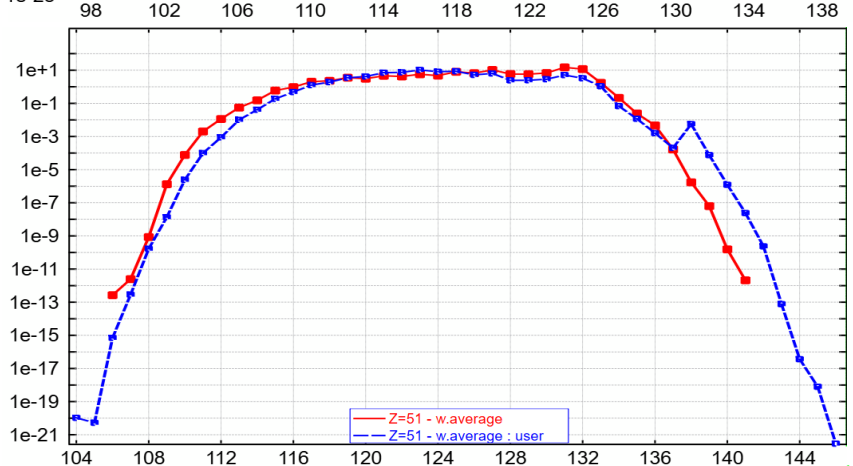


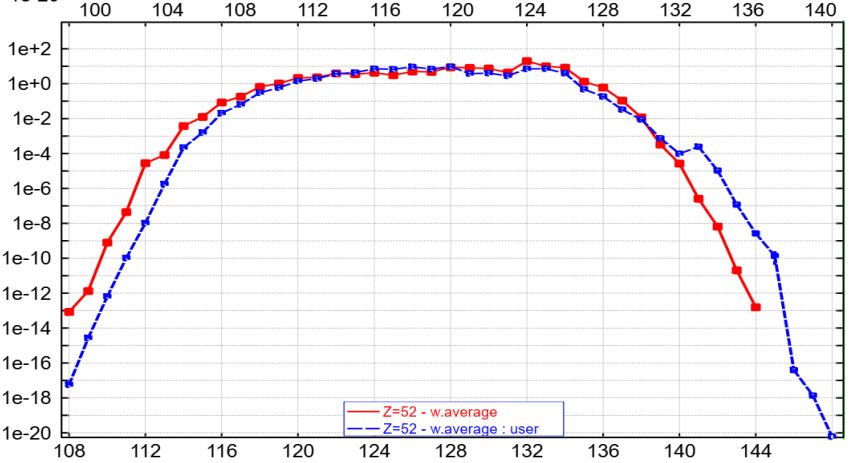


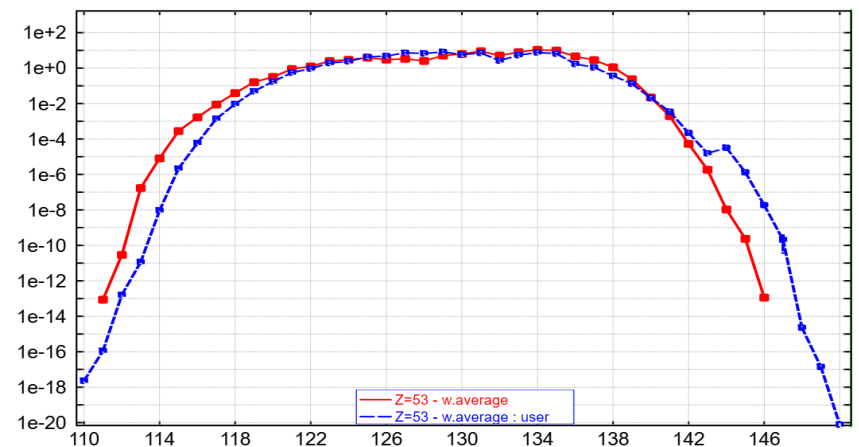


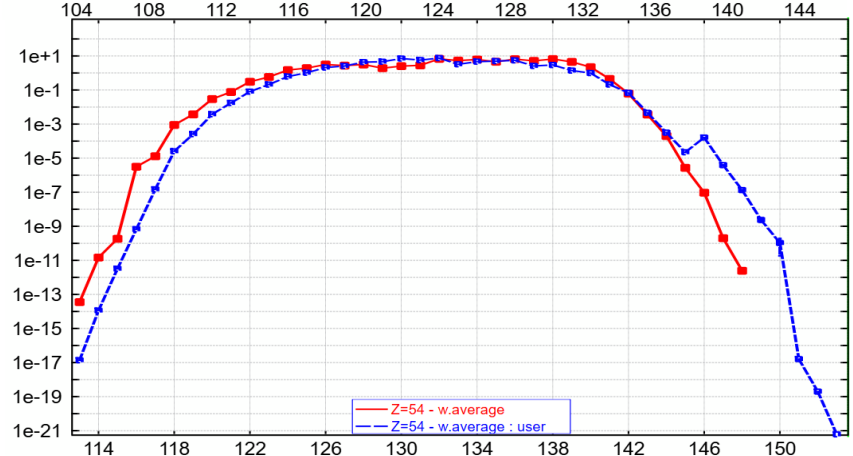




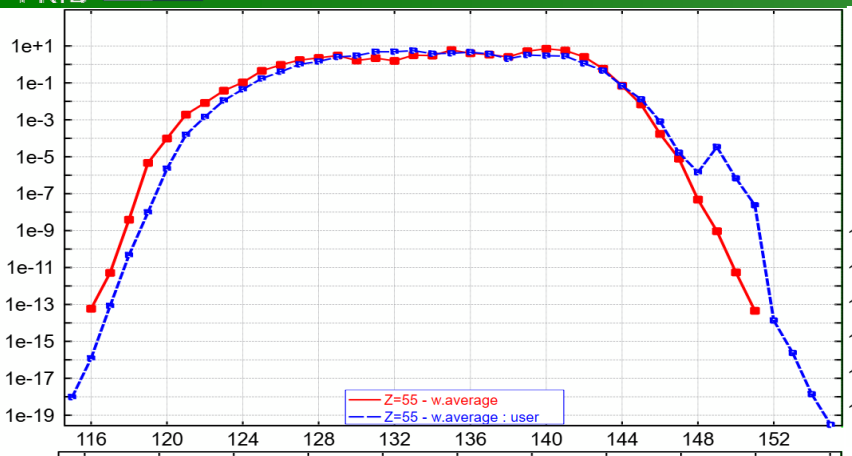


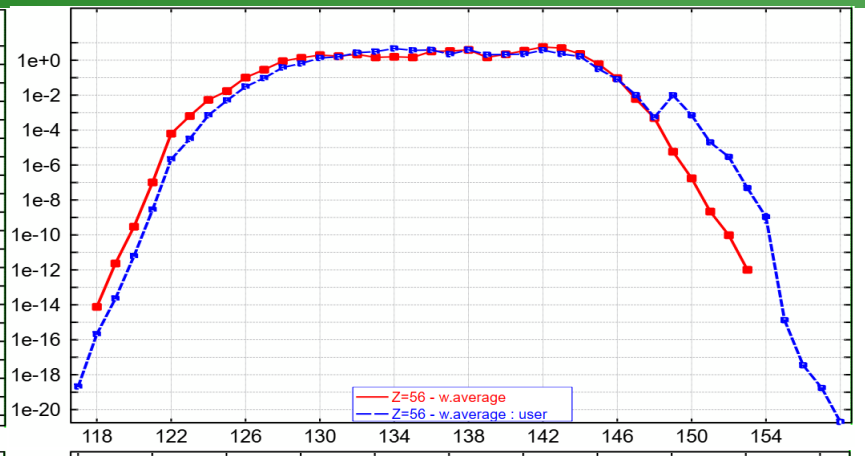


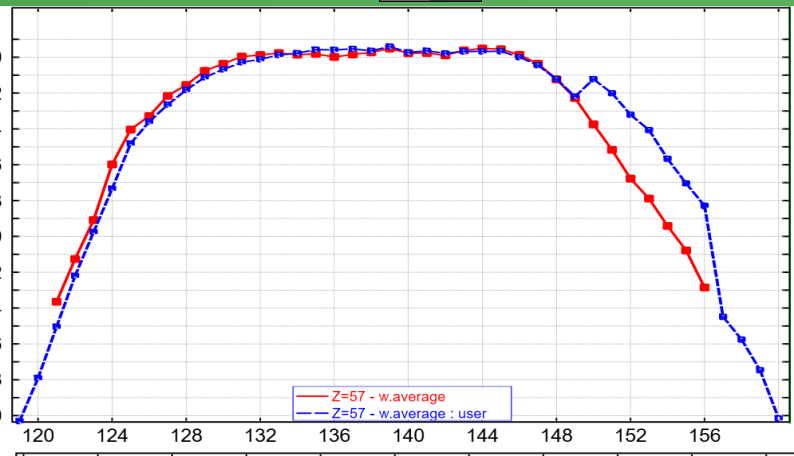


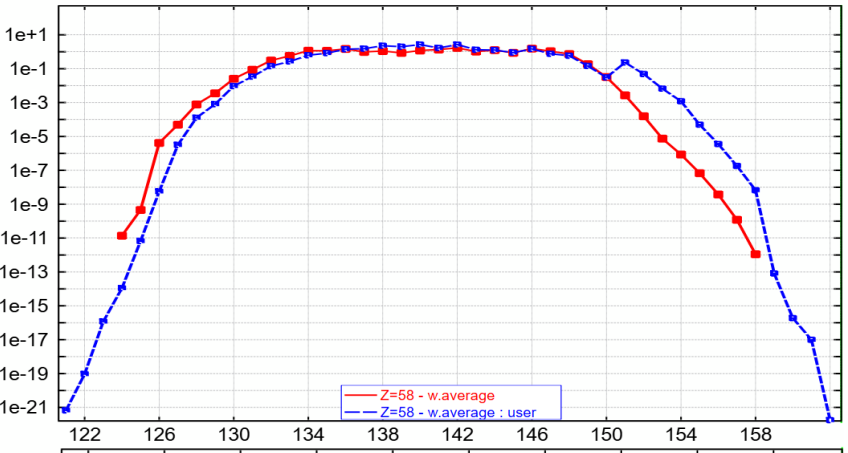


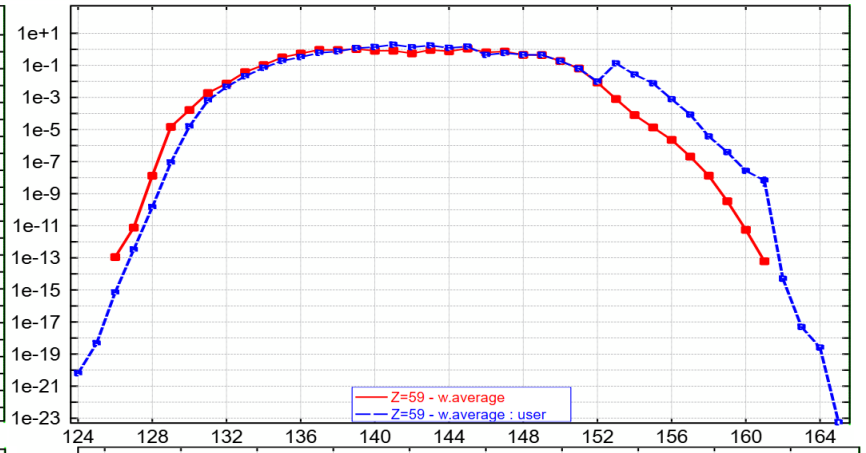
LISE 3EER recommended vs. RIKEN table: Z=55-63

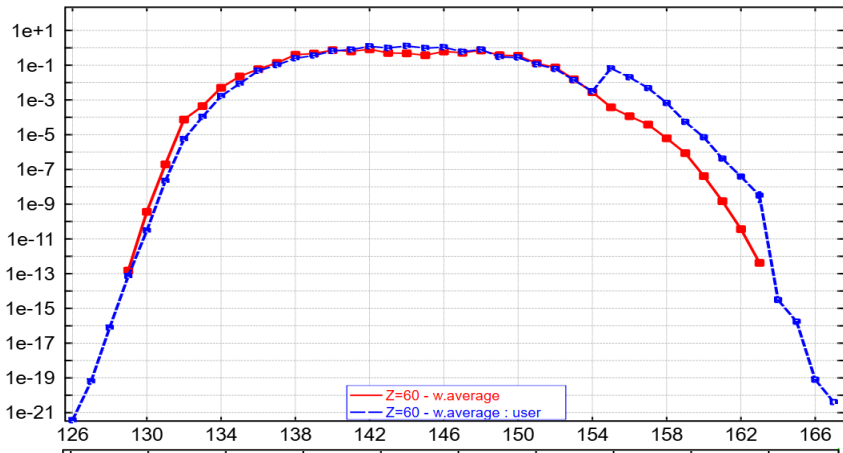


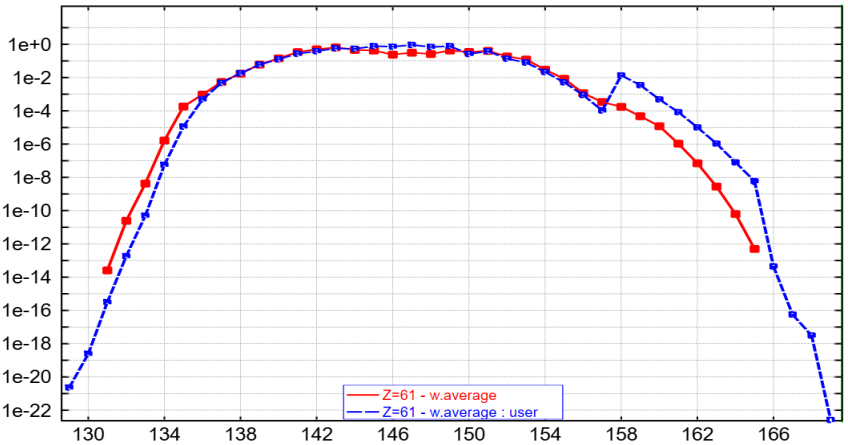


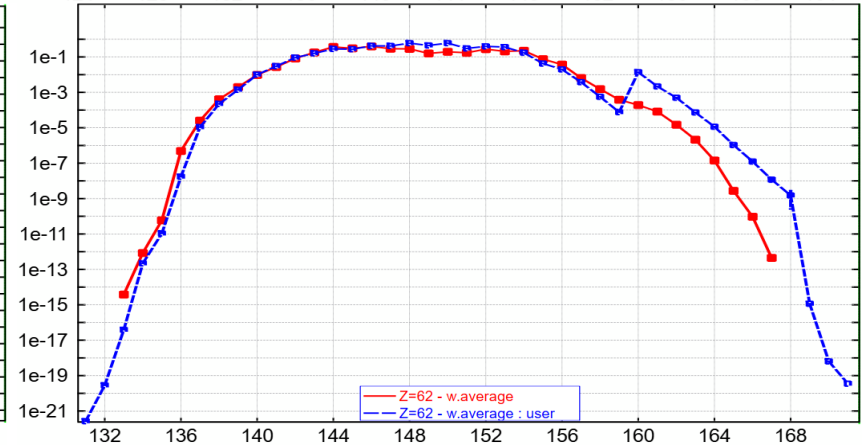


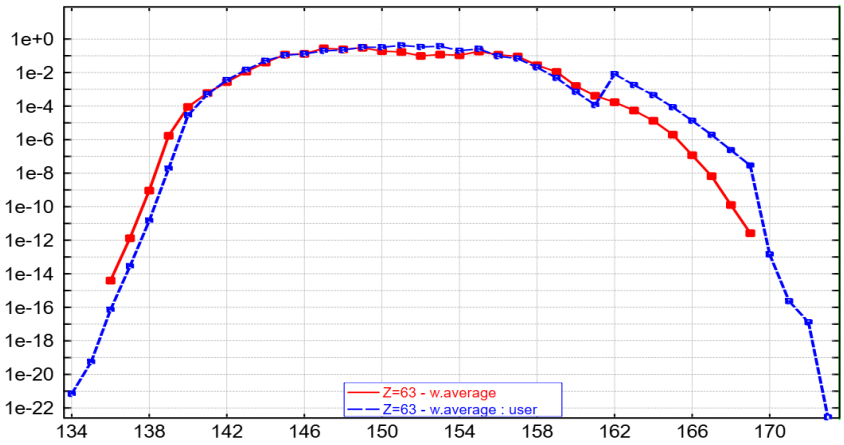




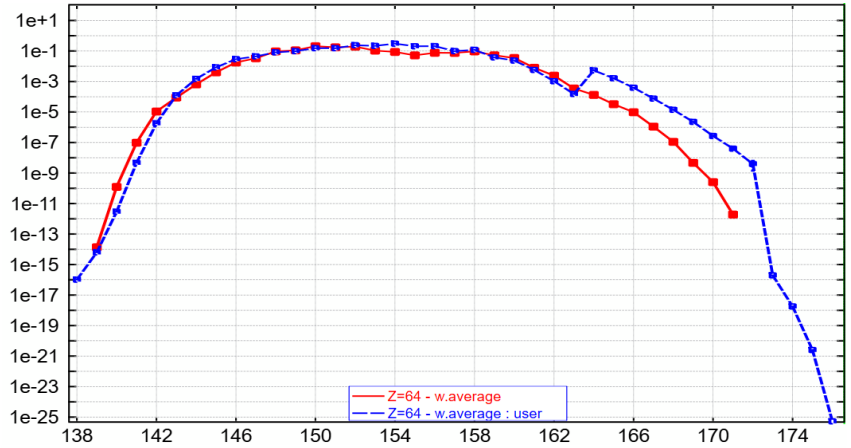


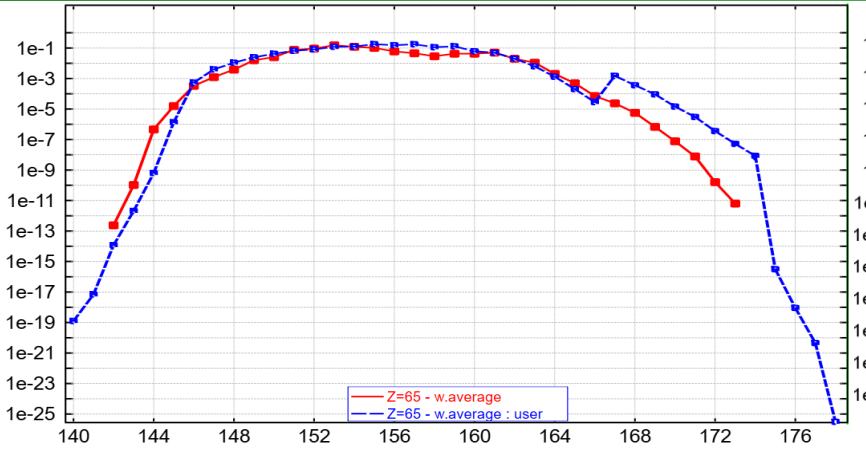


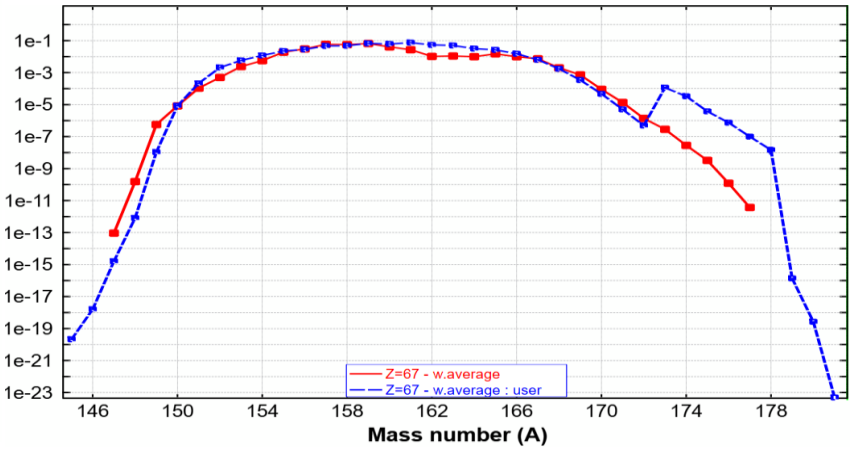


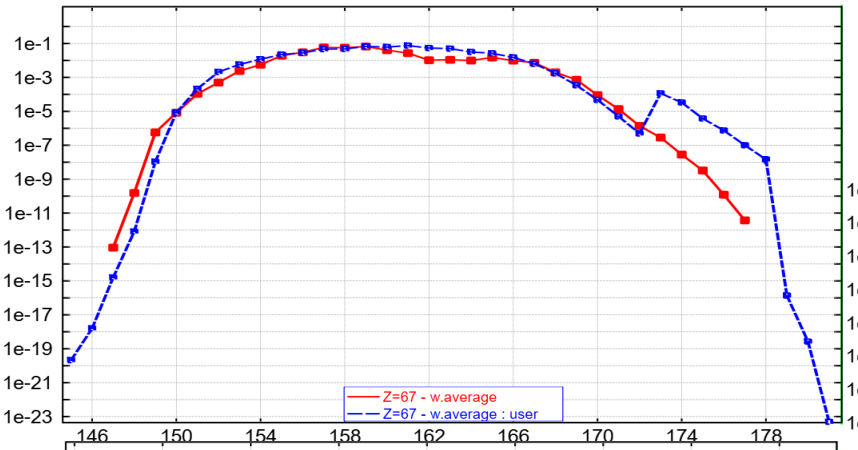


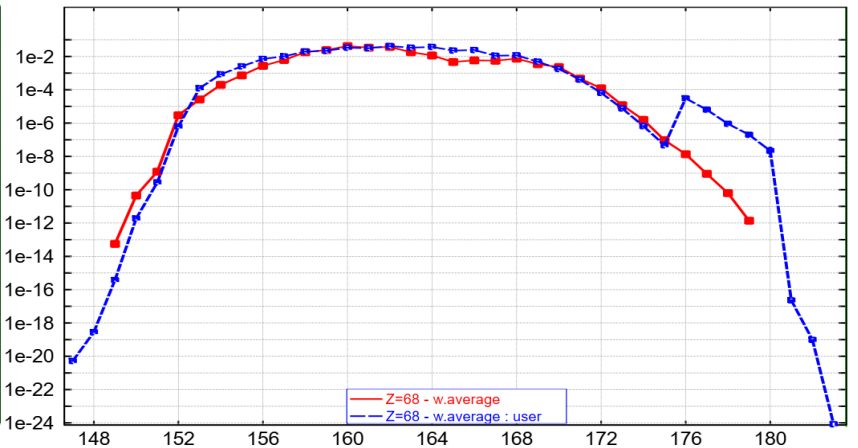
LISE 3EER recommended vs. RIKEN table: Z=64-70

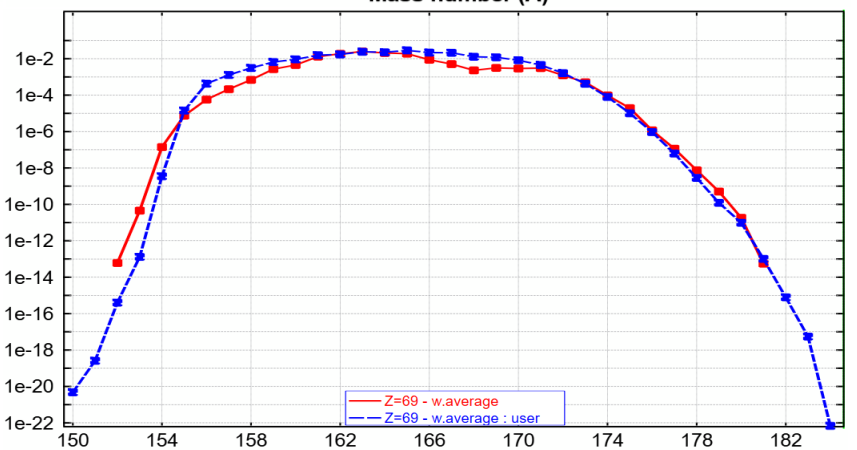


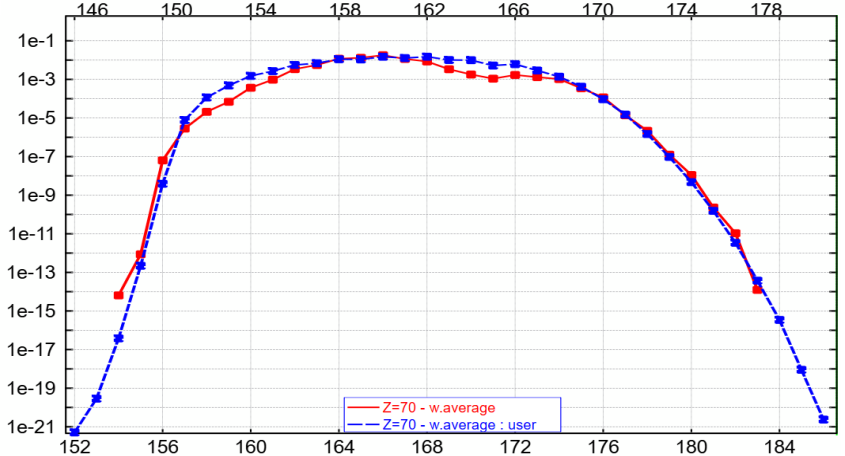






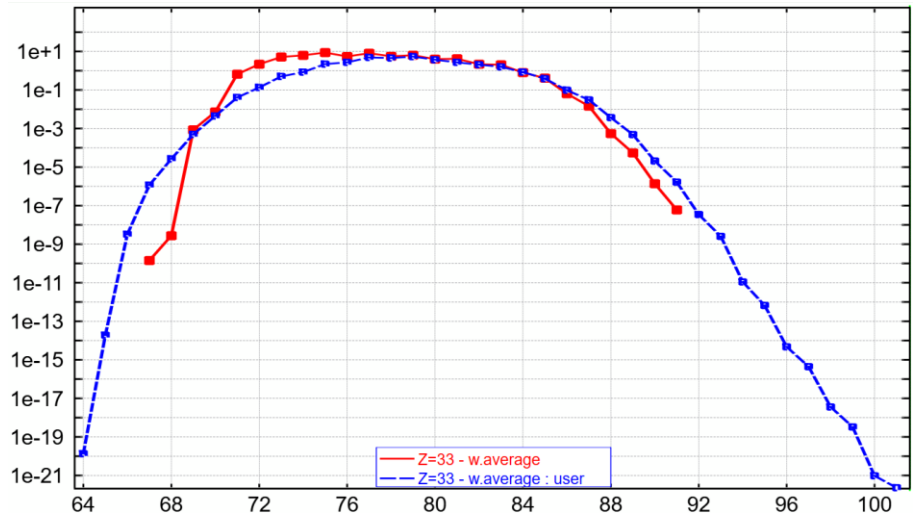




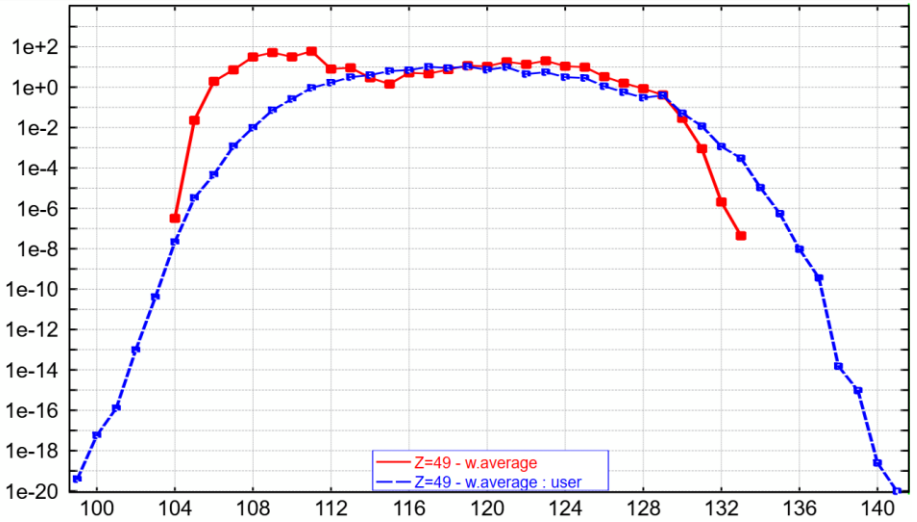


LISE 3EER settings: 2025 vs. 2026

CSs from LISE files for e21027 experiment

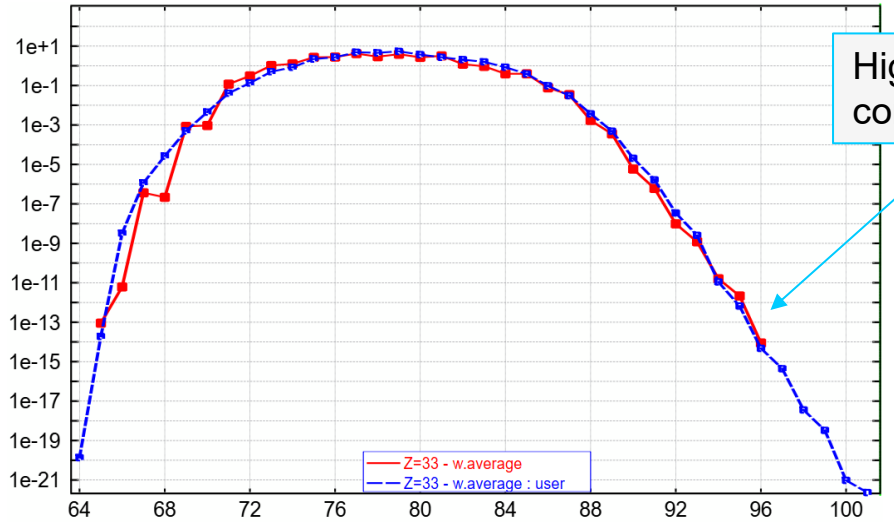


Z=33



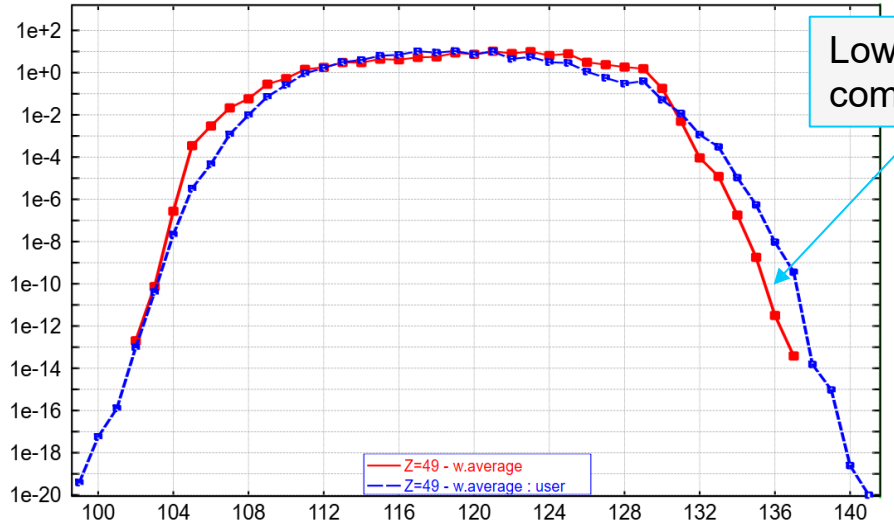
Z=49

New recommended settings 2026



High EER component

See next slide



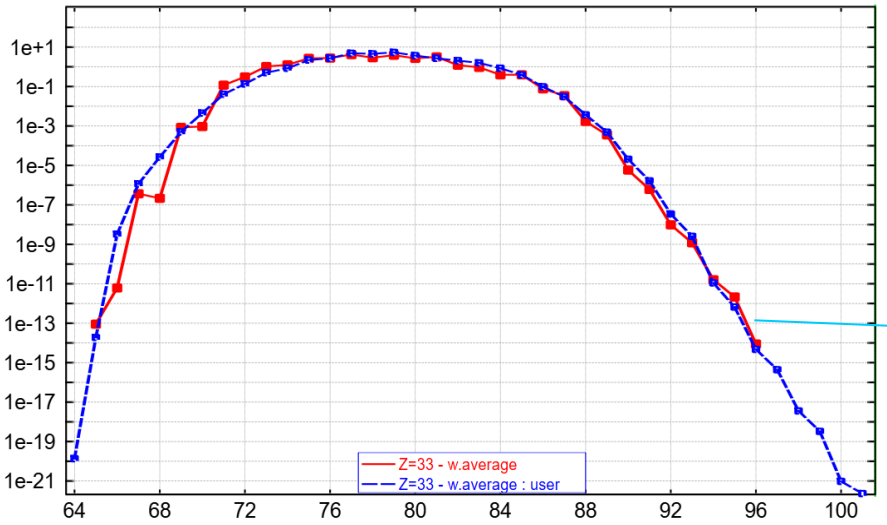
Low EER component

See next slide

Good agreement for light Z, still underprediction for middle Z.
Multi-step reactions can be explanation for middle Z.

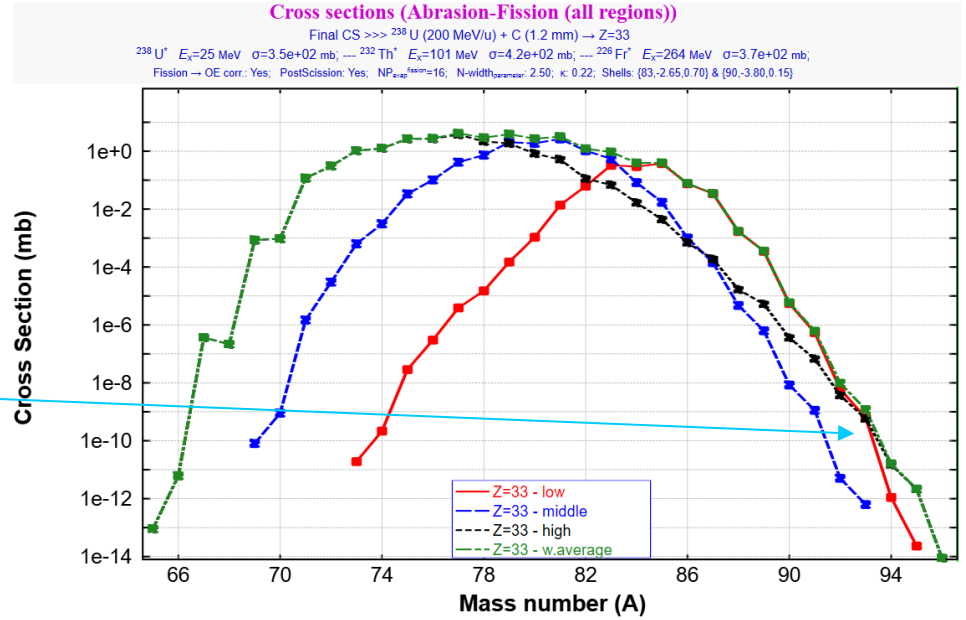
LISE 3EER settings: 2026

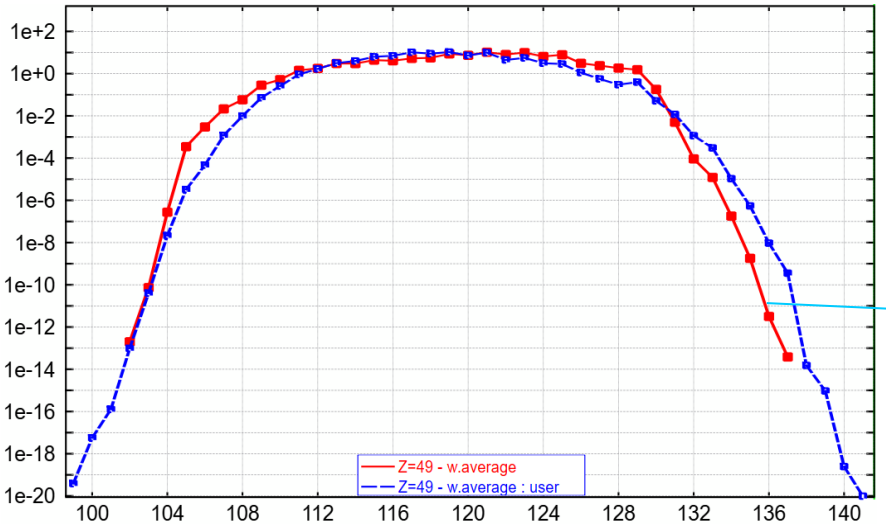
New recommended settings 2026



Z=33

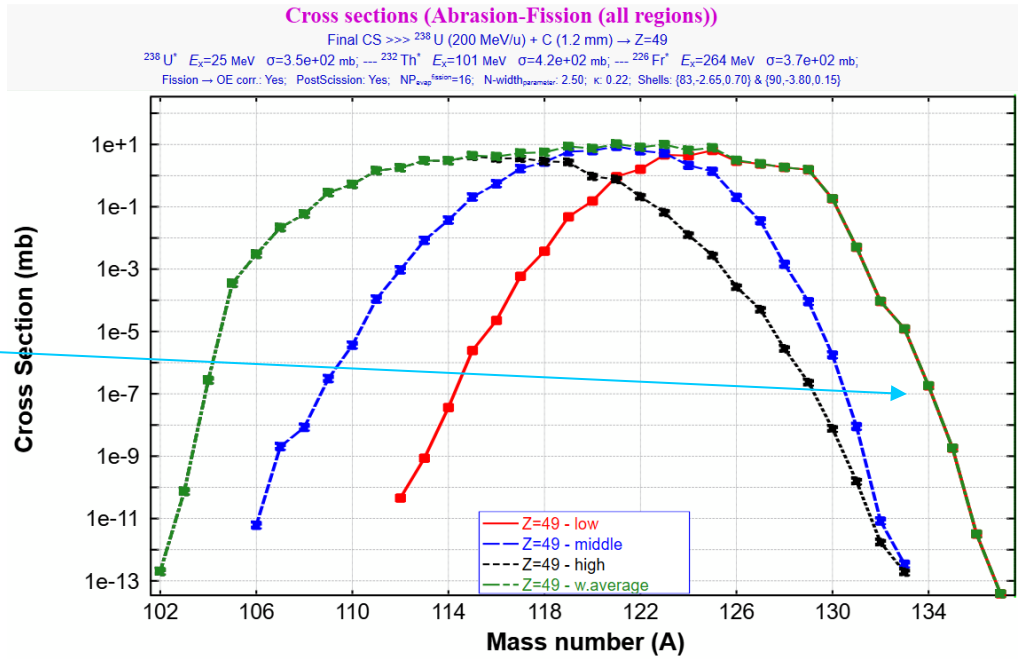
High EER component



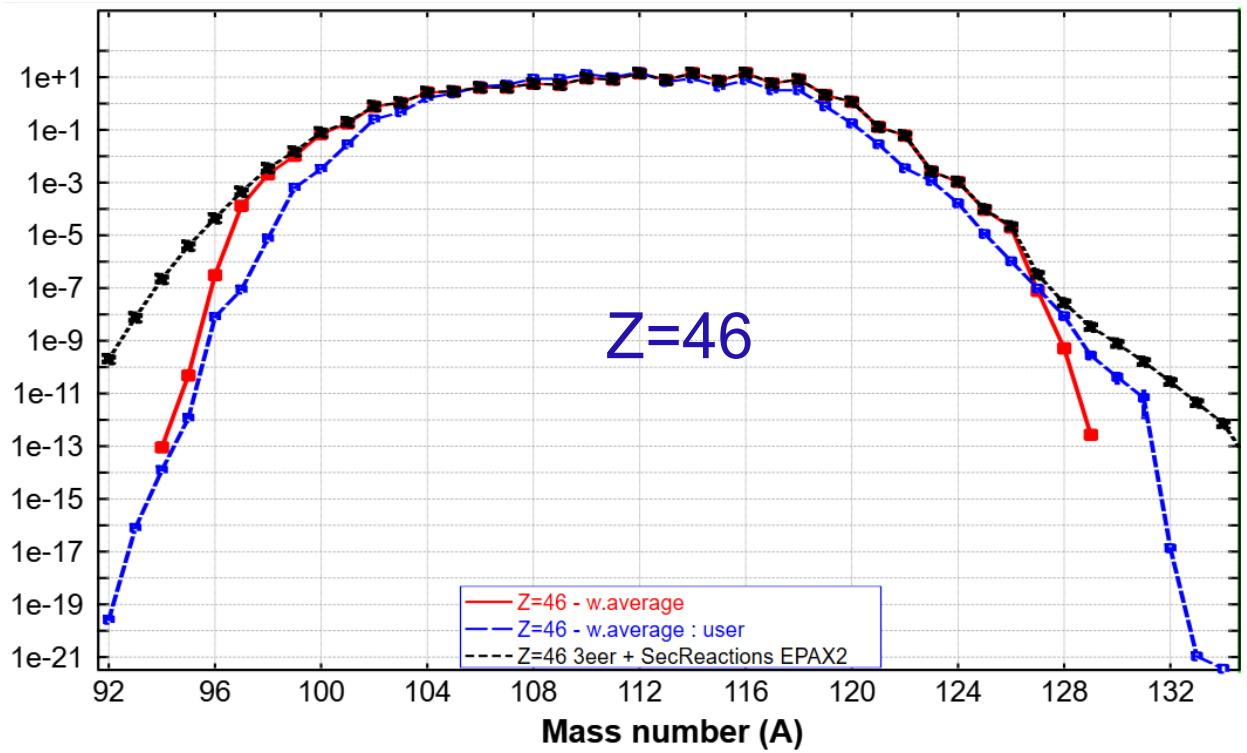


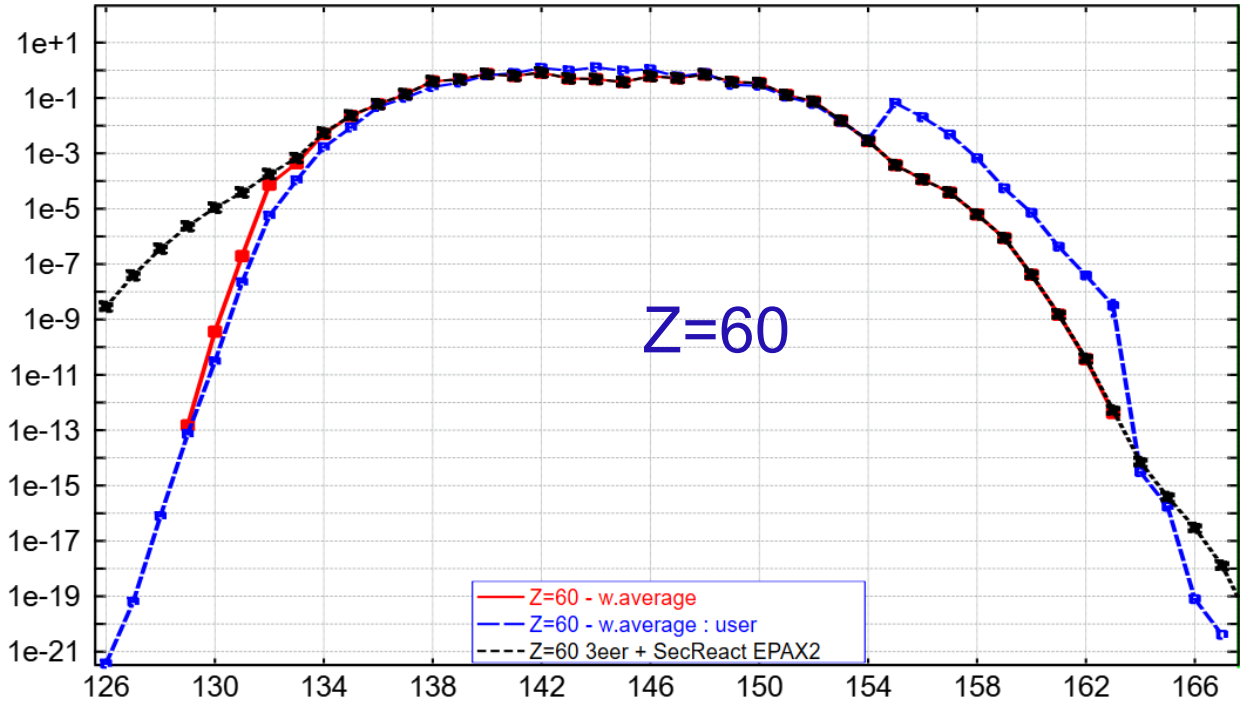
Z=49

Low EER component



Multistep reactions

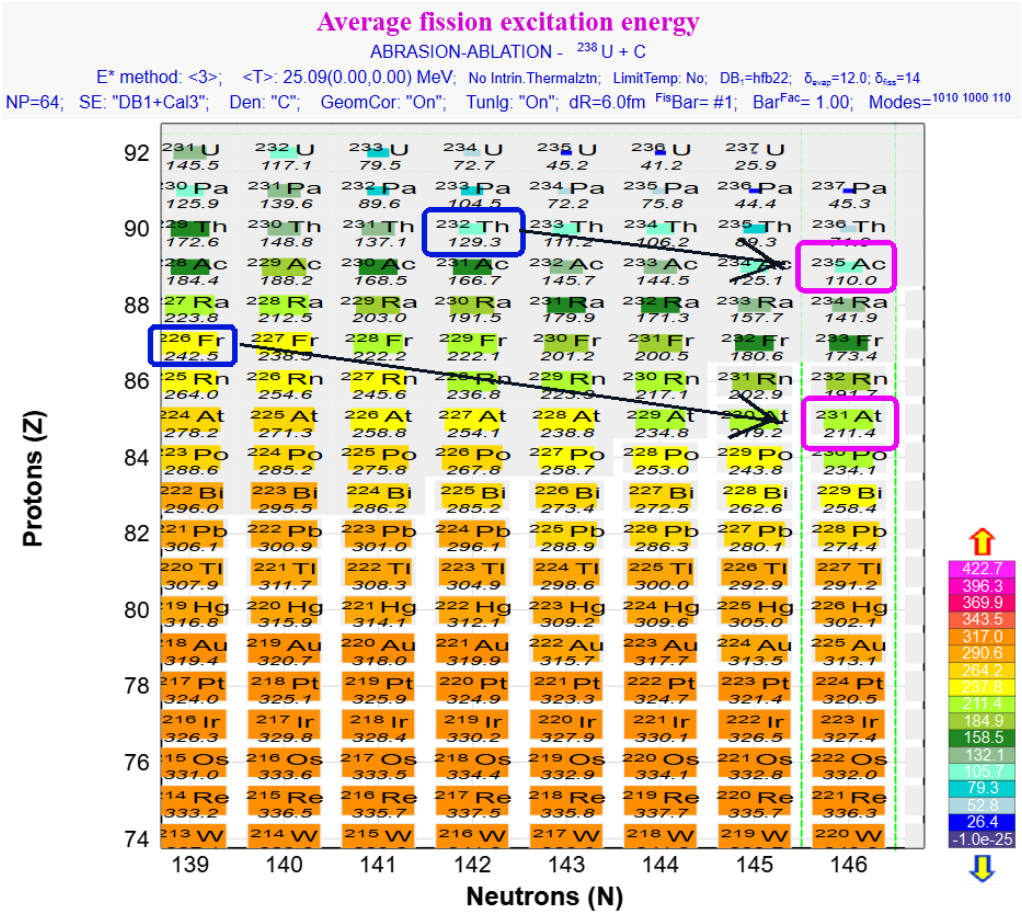


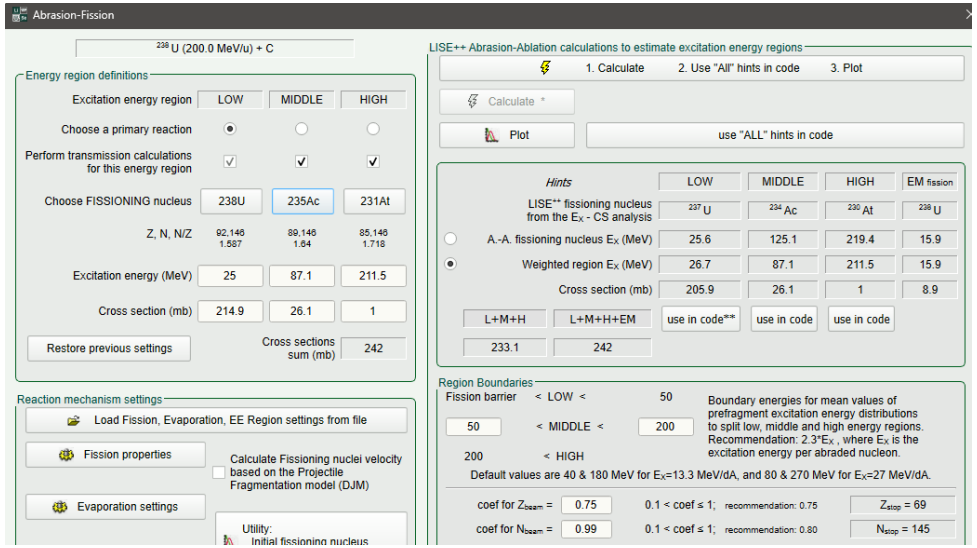


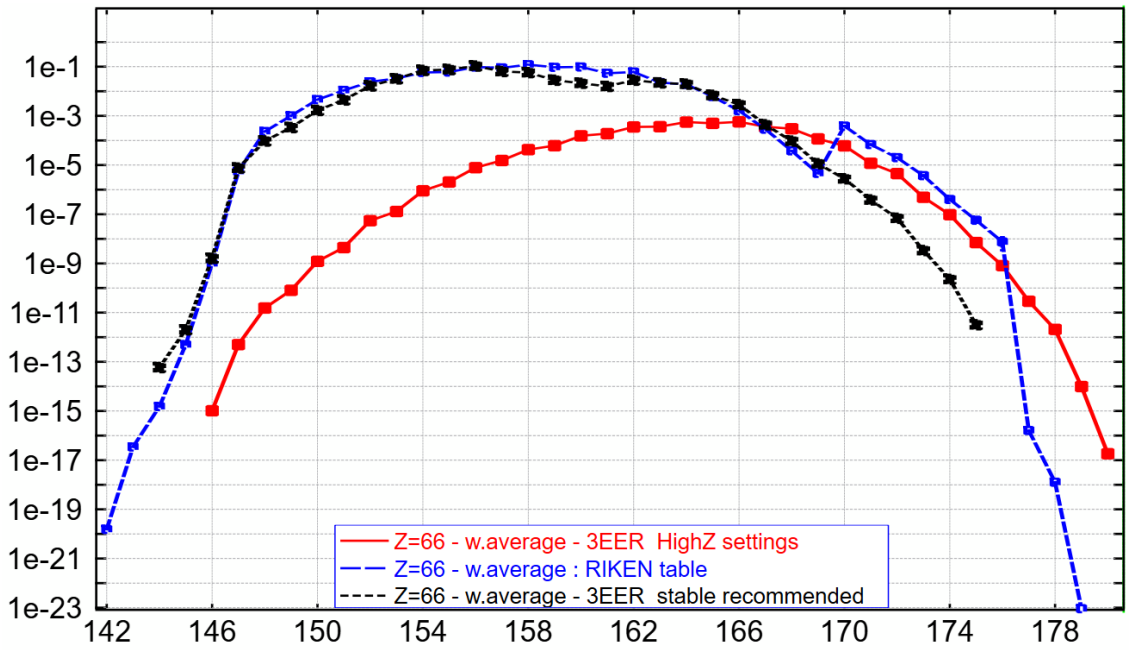
Multi-step reactions may explain the neutron-rich tail of the deduced cross sections for intermediate-*Z* fragments, but not for *Z*=60.
A significant multi-step contribution is expected mainly for isotopes produced with low EER, where the cross section shows a sharp drop.

High-Z 3EER settings

https://lise.frib.msu.edu/10_1/10_1_127_highZ_AF.pdf

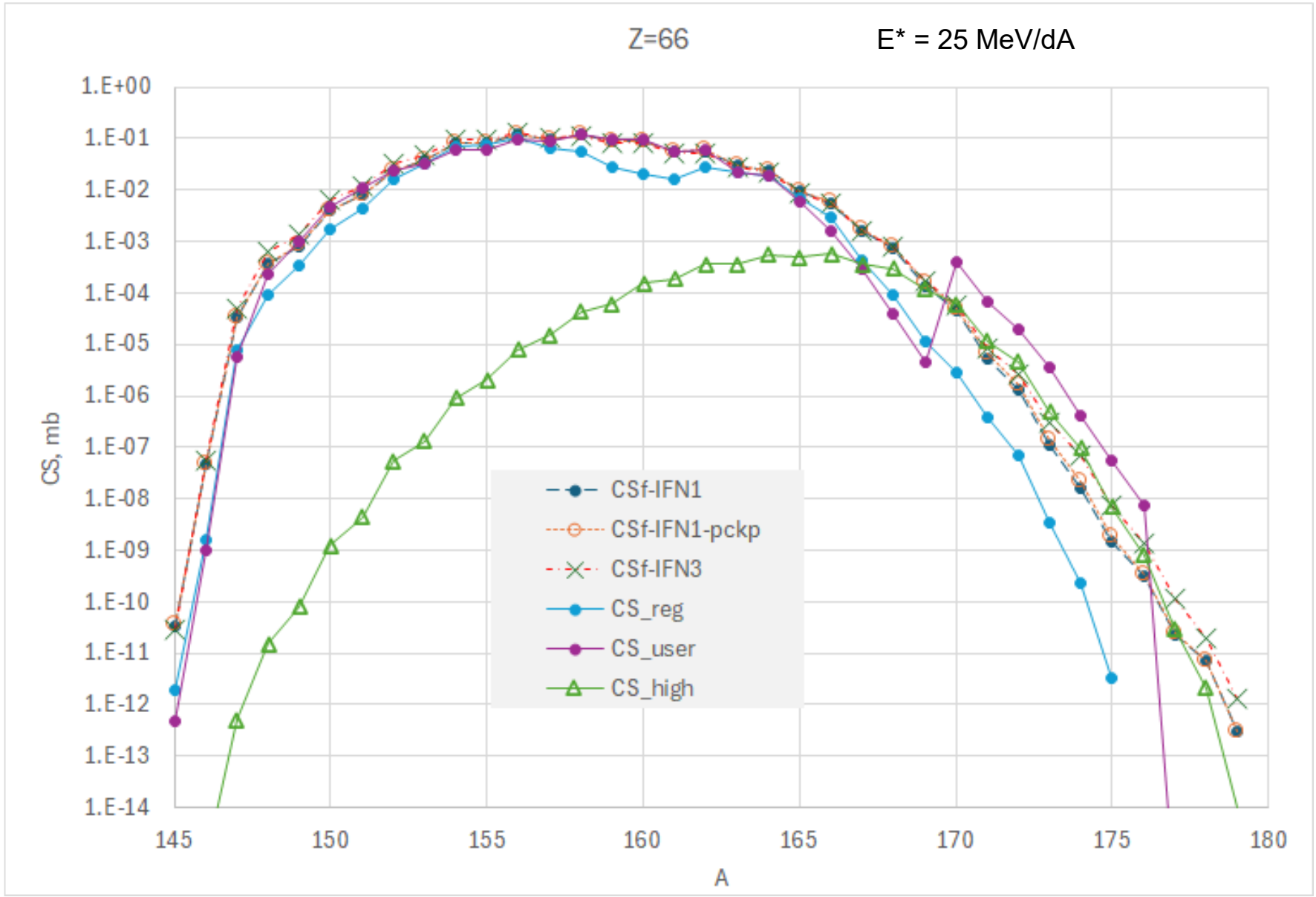






More Close to experimental data, but still underestimation

Z=66: IFN1, IFN3, 3EERs

Neutron-rich: IFN3 ~ 3ERR High Z

IFN: https://lise.frib.msu.edu/10_1/11_0_28_IFN_search.pdf