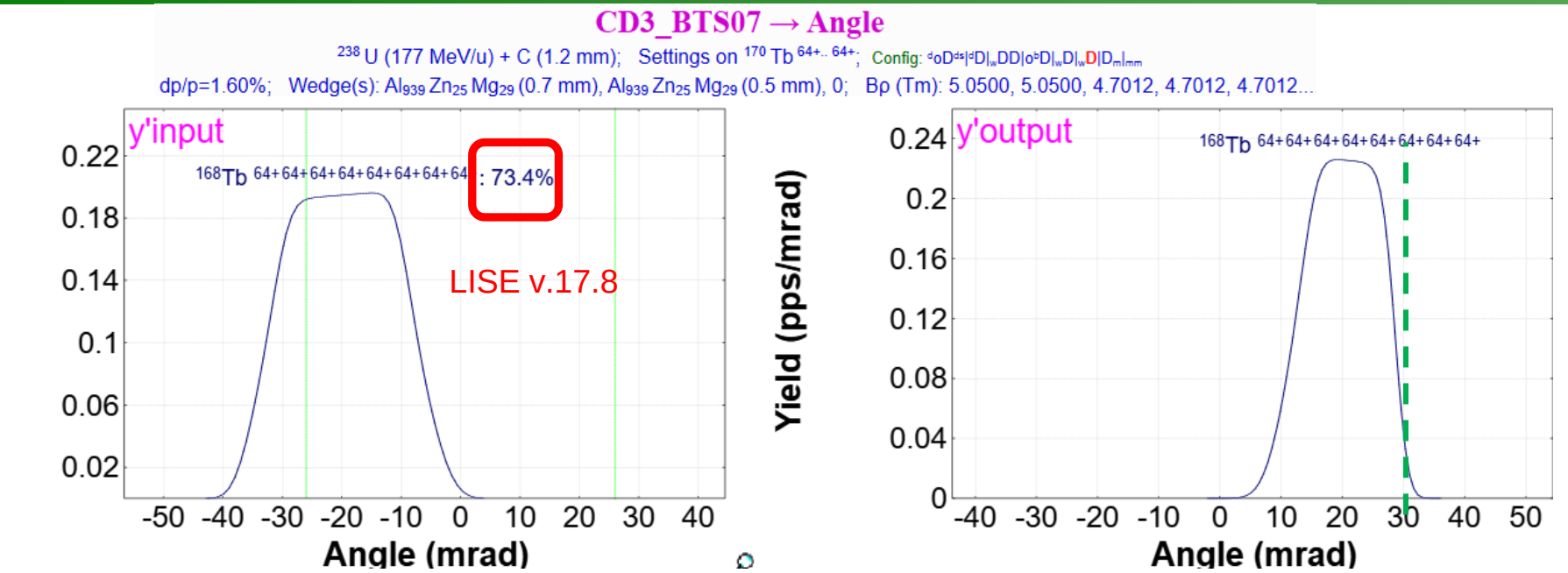
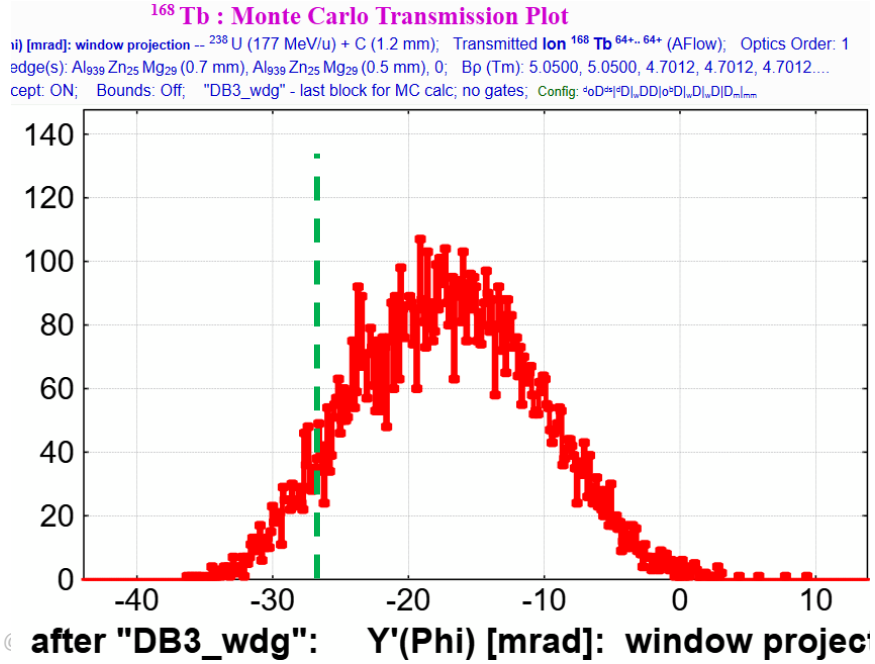
LISE++ *cute* : Angular distribution features update

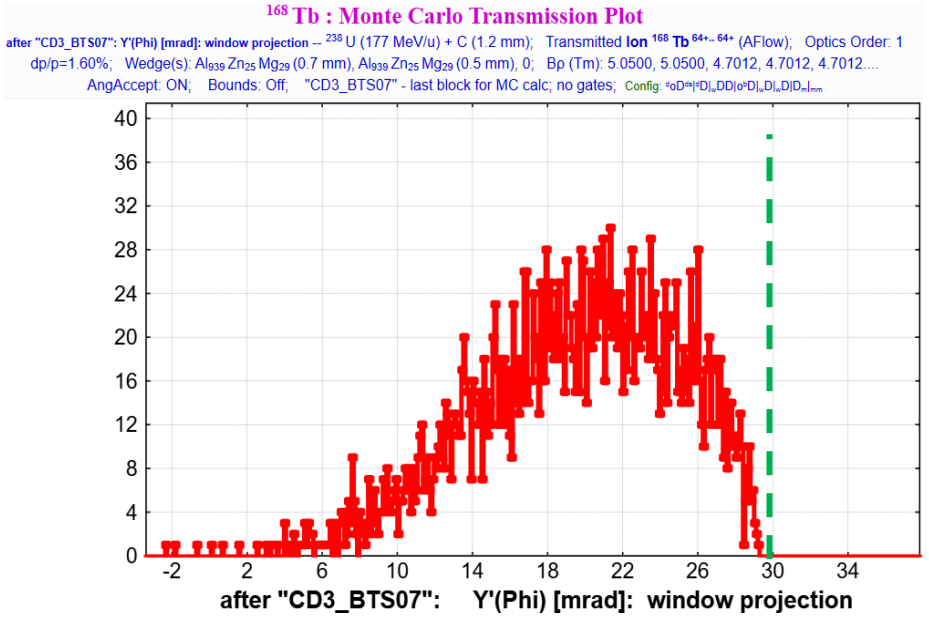
v.17.8
09/18/24

- Revision of angular acceptance cut of fission products
- Update of angular straggling contribution: non-achromatic locations
- Pickup option in AA [under development]
- All modifications : from 17.7 to 17.8

Revision of angular acceptance cut of fission products





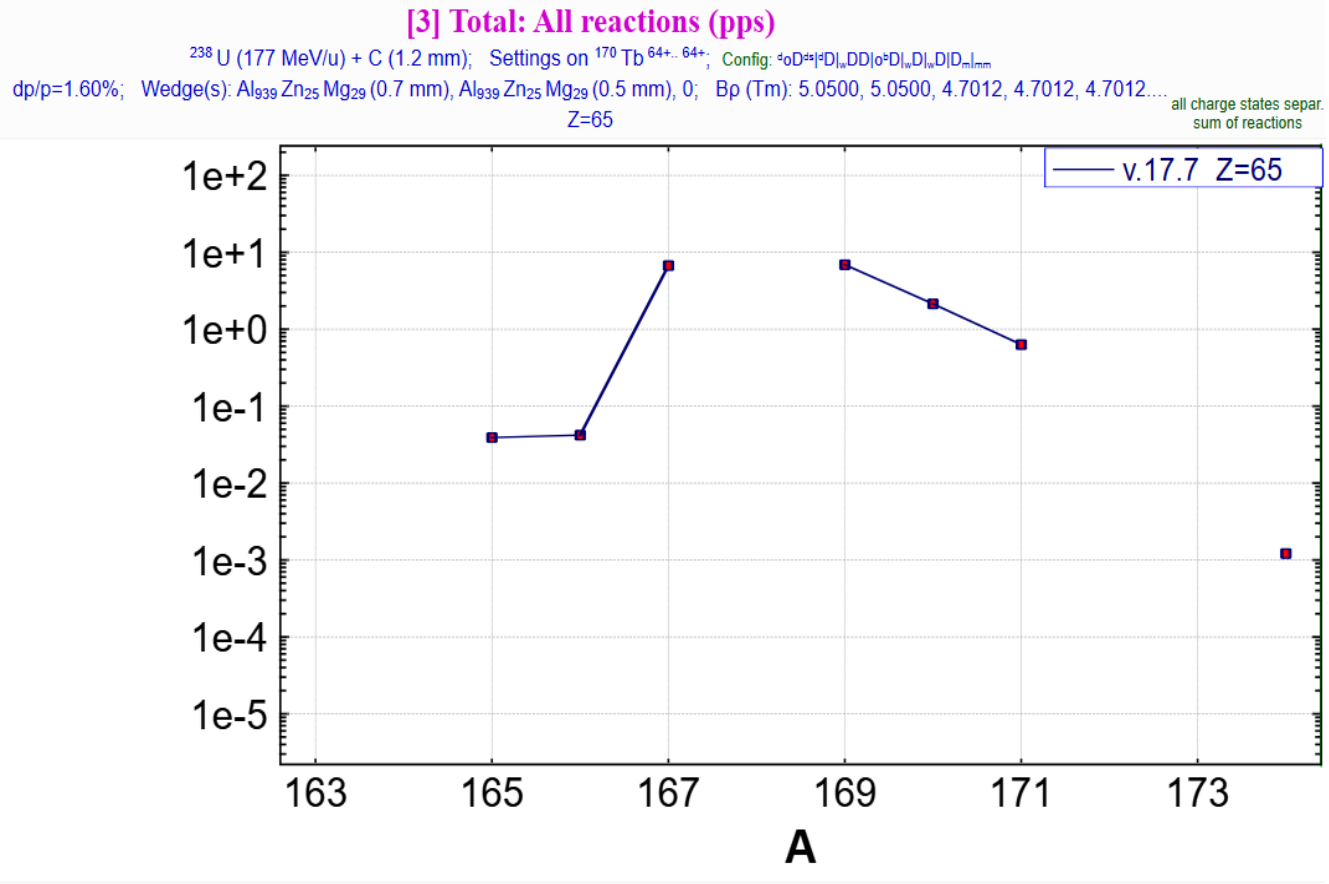


This could imply that when dealing with off-centered angular distributions of fission fragments that extend beyond a specific angular acceptance range, earlier versions of LISE (up to 17.8) might not produce any output results.

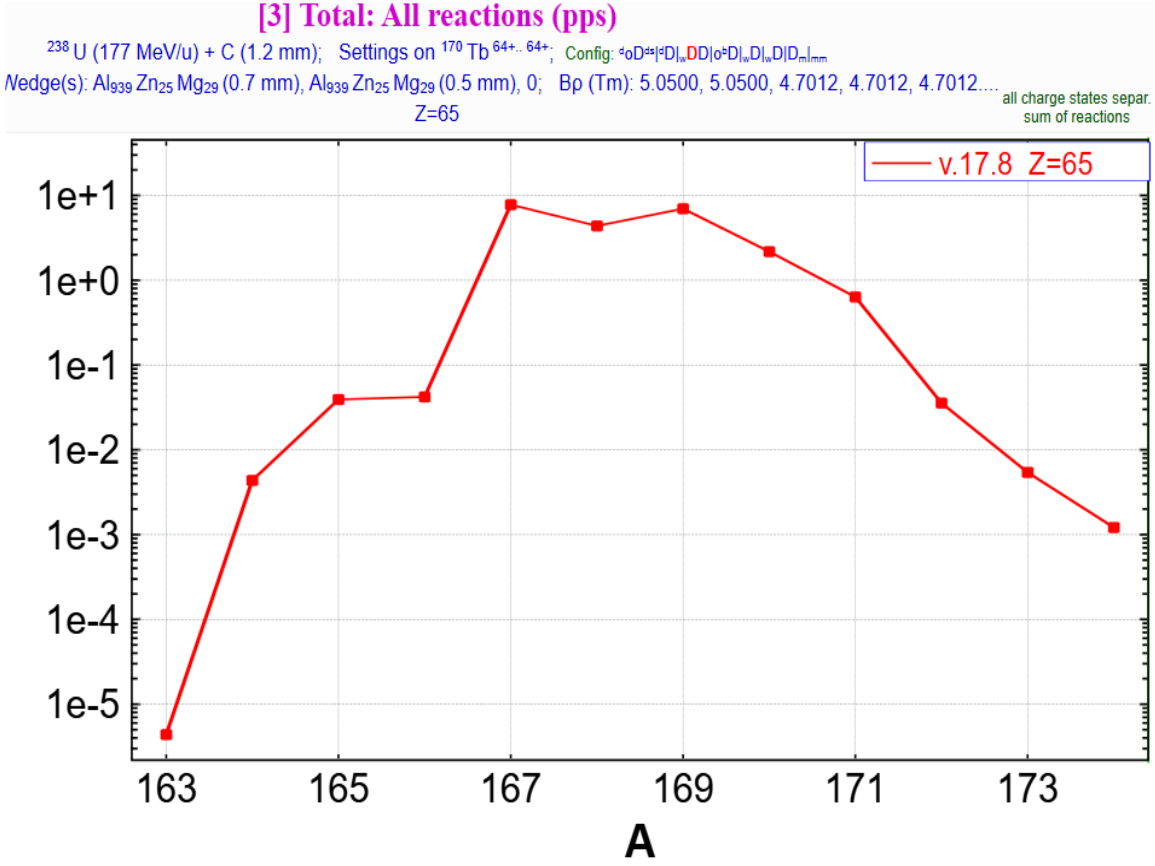
Revision of angular acceptance cut of fission products

Fission, double plain rotation, momentum compression, two weedges

LISE v.17.7



LISE v.17.8



Update of angular straggling contribution: non-achromatic locations

This example materials are located in vertical non-achromatic plane

Erika Kazantseva's request

FM2 slits

A thick wedge after FM2 slits

Global matrix

Global

1. X	1.8383	-1.99e-05	0	0	0	-55.865	[mm]
2. T	-0.5531	0.544	0	0	0	-0.0016	[mrad]
3. Y	0	0	0.1047	0.6284	0	0	[mm]
4. P	0	0	-1.5867	0.0299	0	0	[mrad]
5. L	3.0906	-3.0389	0	0	1	-0.6842	[mm]
6. D	0	0	0	0	0	1	[%]
	/[mm]	/[mrad]	/[mm]	/[mrad]	/[mm]	/[%]	

Det= 1.0002

Thickness (original)

13.452915 mm

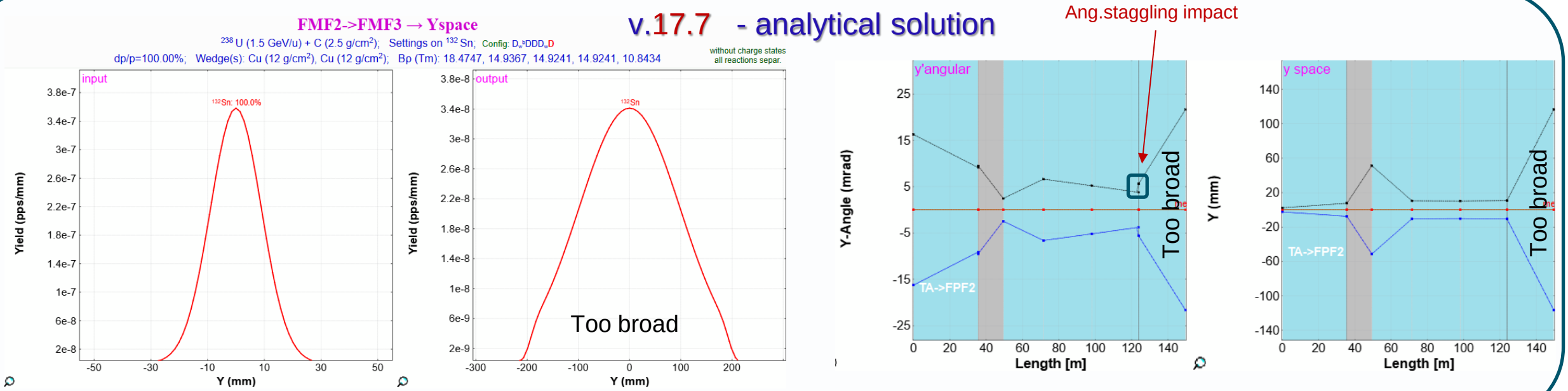
12 g/cm²

Atoms / cm² 1.14e+23

d/Range (frag) 0.497

MC solution gives after FMF2->FMF3
σ(Y) = 10.9 mm, σ(Y') = 4.1 mrad
(see next slide)

v.17.7 - analytical solution



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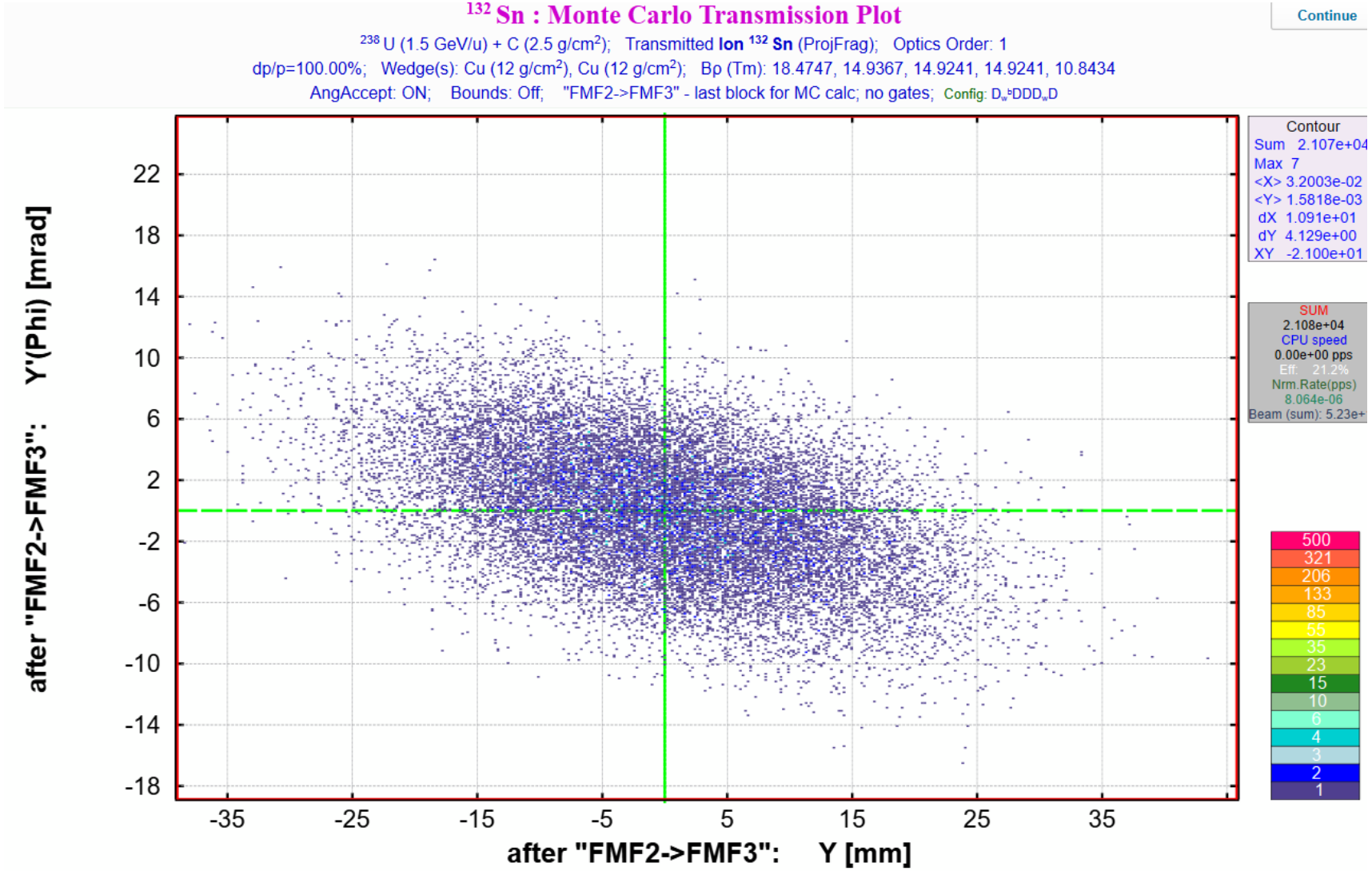
v.17.7 - MC solution



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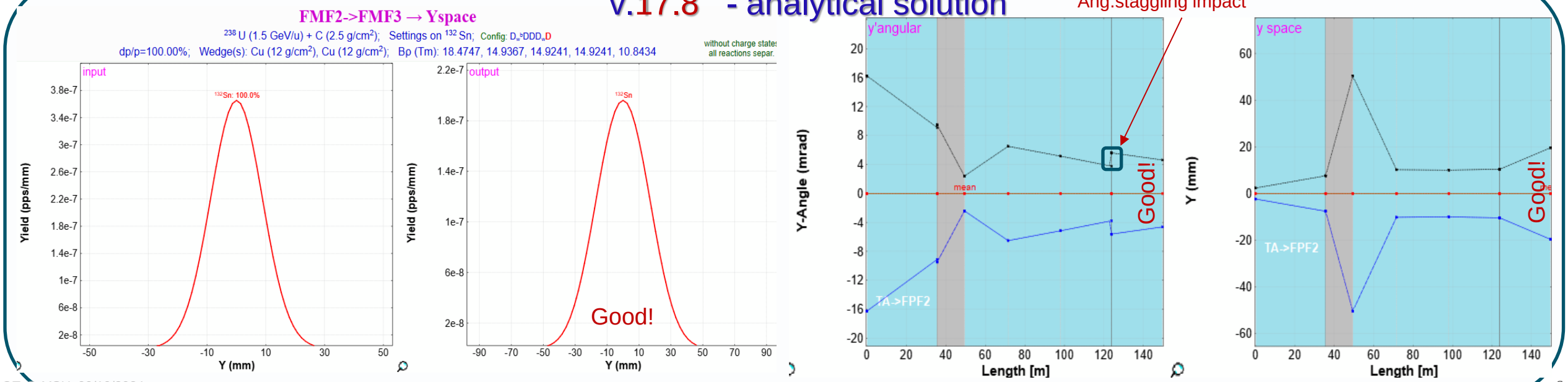
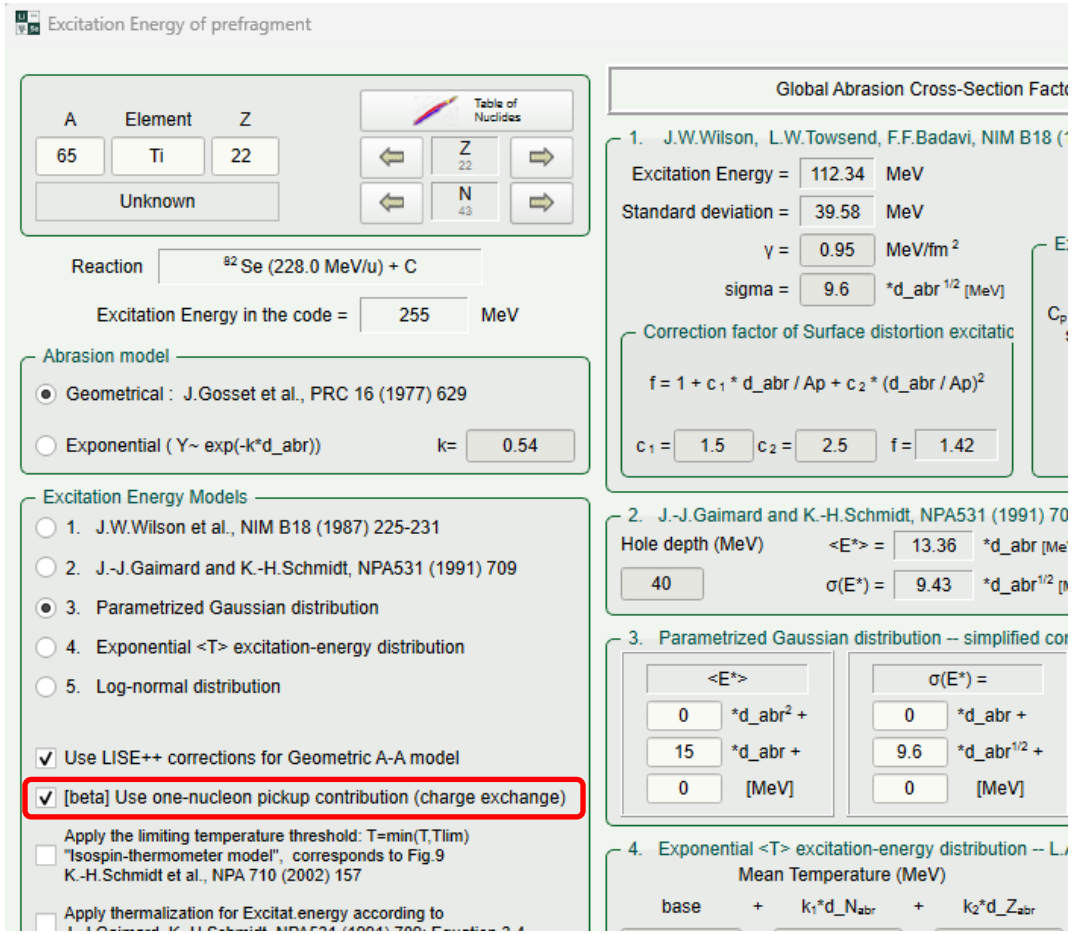
v.17.8 - analytical solution

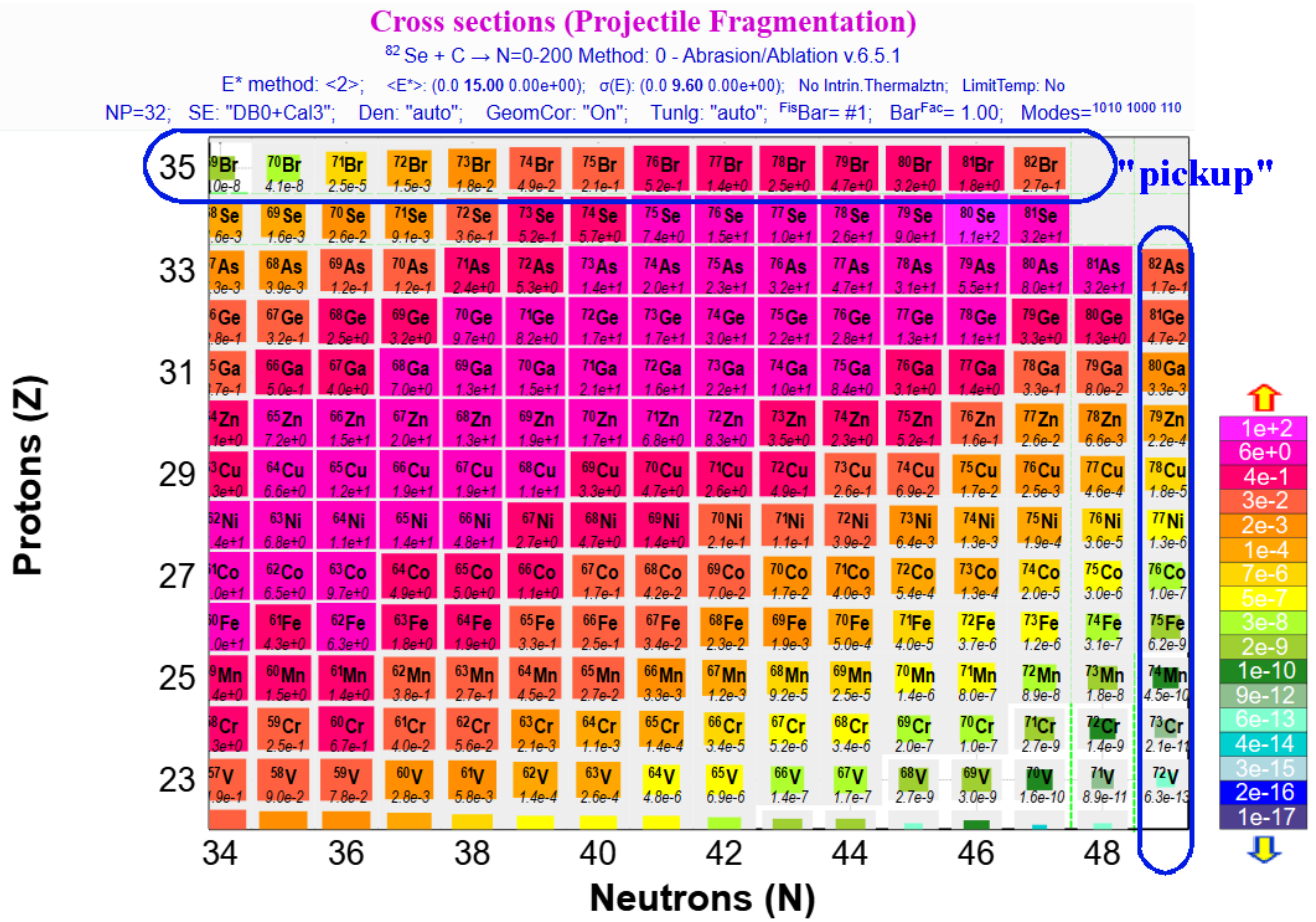
Ang.staggling impact



Pickup option in AA [under development]

E* distribution is based on INCL (BeAgle) charge-exchange results





All modifications : from 17.7 to 17.8

17.7.1	07/27/24	fission case: using any optic block with angular acceptance for Brho-tuning (M.H.)
17.7.2	08/05/24	B_eff values in d_Apf_auto dialog
17.7.3	08/29/24	Excitation energy parameters more details in Cross-section plots
17.7.4	09/07/24	Revision of LimitingTemperature option (Apf Ex dialog)
17.7.5	09/11/24	results-file : update for slit size
17.7.6	09/11/24	elapsed time includes msec
17.7.7	09/13/24	1D-plot Legend : bottom version
17.7.8	09/13/24	clear all calculation and reactions with clicking righ mouse button on the rectangle in beam setup area
17.7.9	09/13/24	Clickable Label : right button signal
17.7.10	09/13/24	**Pickup option in AA : class, dialog, ini-file, lise-file**
17.7.11	09/15/24	FireBall [FB] moving to const Ce*
17.7.12	09/15/24	update o_AA and o_AA_manage for FB.Pickup
17.7.13	09/15/24	o_AA_compare for FissionBarrier and FB.Pickup
17.7.14	09/15/24	L_init_options: correlation between opt->AA_show & opt->CS_plot
17.7.15	09/15/24	correction in sigma label in MC contour table
17.7.16	09/16/24	Preference: new display option "Global transmission" instead "reaction field"
17.7.17	09/16/24	rebuild TR_A & TR_AcceptAn for debugging
17.7.18	09/17/24	**Serious revision for fission case in TR_AcceptAn**
17.7.19	09/18/24	**Revision for angular straggling contribution to ang.distribution taking defocusing into account**
17.7.20	09/18/24	64 - default value for wedge calculation