SHELS: $^{48}Ca(216Mev) + PbS(0.404mg/cm^2) \rightarrow {}^{254}No^{18+}$

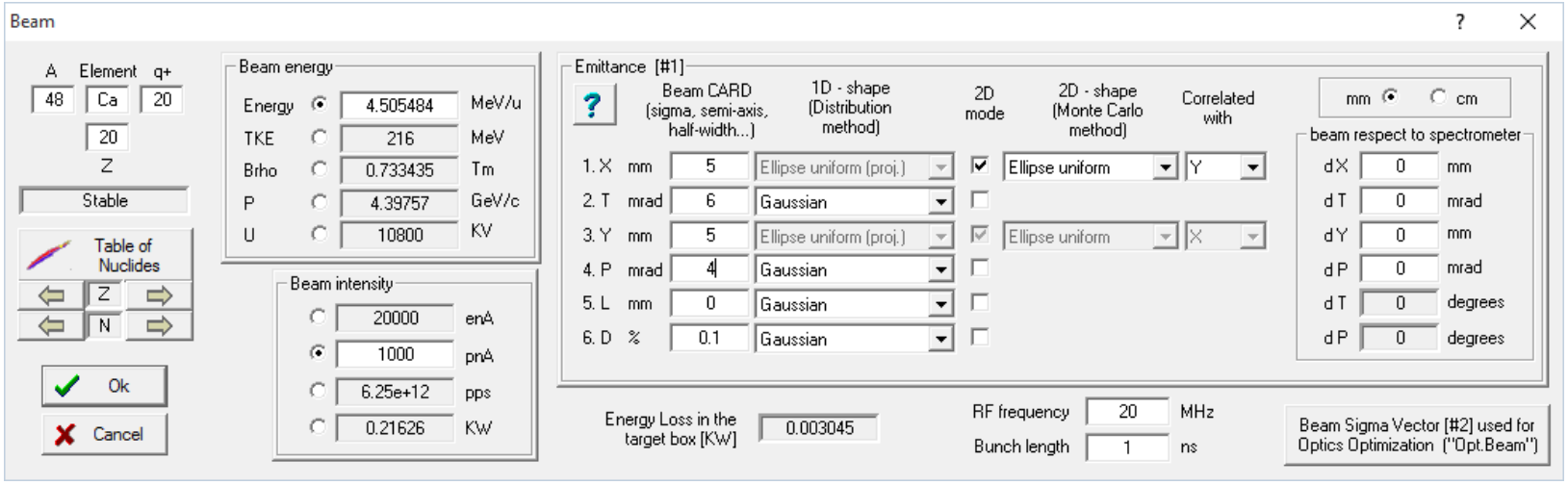
LISE++ Version 9.10.209
from 11/19/2015

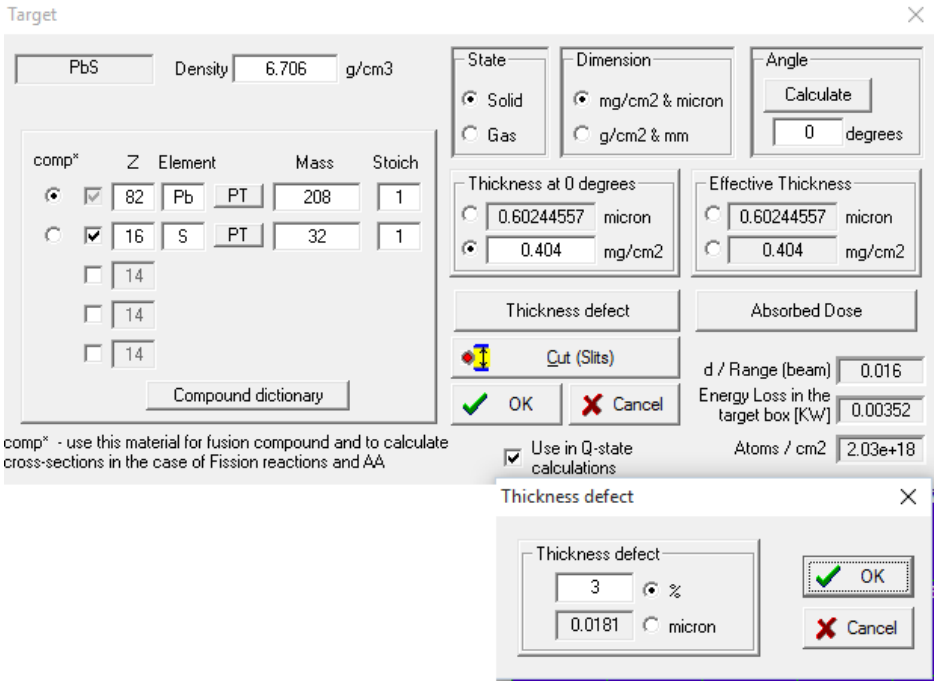
11/25/15

$^{48}Ca(216Mev) + PbS(\mathbf{0.404}mg/cm^2)$

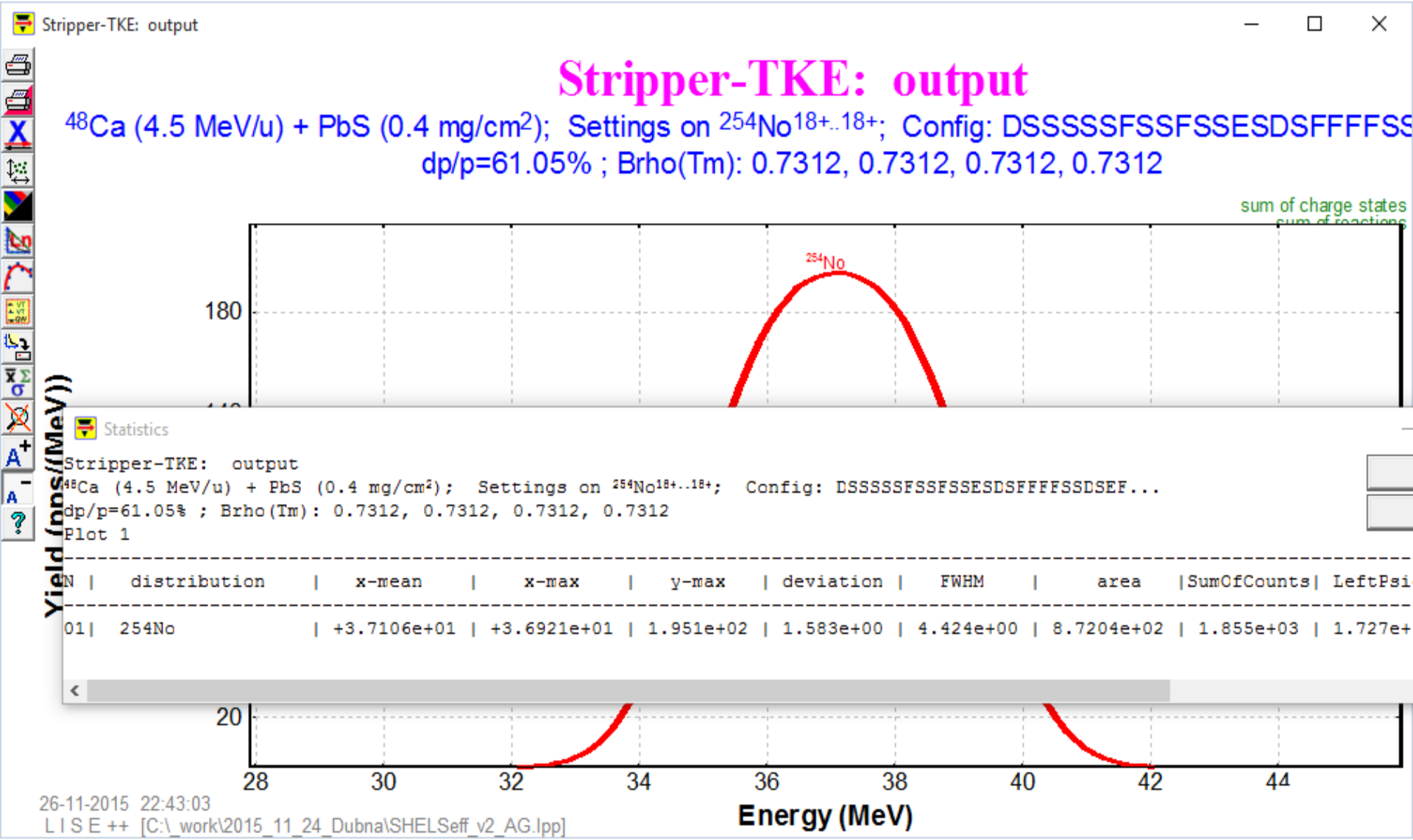
- New target and beam settings
- New optical settings
- Matrix envelpes
- Transmission
- Transmission with disperse block recalculation

New beam and target settings





Residue energy with new beam and target settings



Statistics

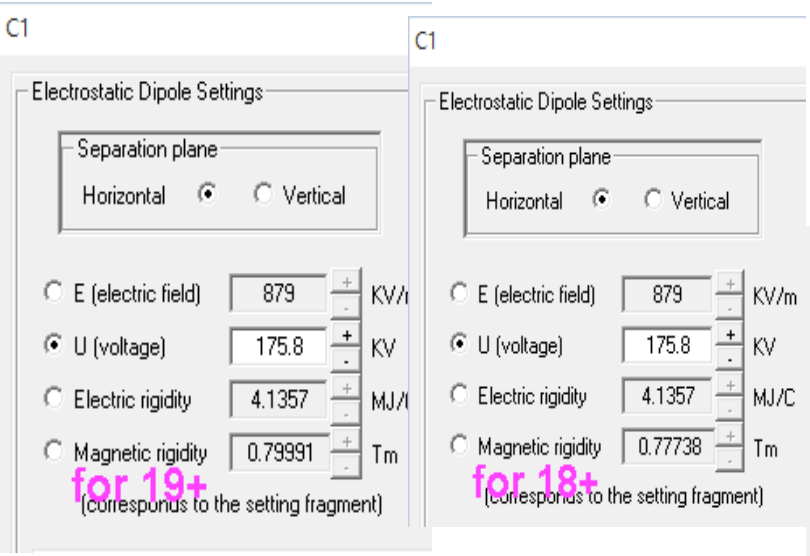
Stripper-TKE: output
48Ca (4.5 MeV/u) + PbS (0.4 mg/cm2); Settings on 254No18+..18+; Config: DSSSSSFSSFSSESDSFFFFSSDSEF...
dp/p=61.05% ; Brho(Tm): 0.7312, 0.7312, 0.7312, 0.7312
Plot 1

N	distribution	x-mean	x-max	y-max	deviation	FWHM	area	SumOfCounts	LeftPsi
01	254No	+3.7106e+01	+3.6921e+01	1.951e+02	1.583e+00	4.424e+00	8.7204e+02	1.855e+03	1.727e+

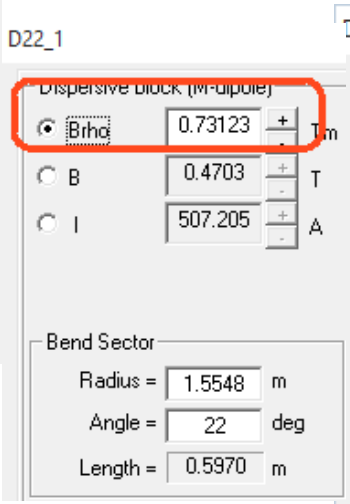
Optics settings

Для реакции 48Ca(216 МэВ) +208Pb(PbS, 0.35 mg/cm^2 Pb)->254No+2n
<E>=37.6 MeV, <q>=18.2 (Николаев - это наилучшее для медленных тяжёлых)
Наилучшая трансмиссия получается при
IQ1=866.8 A, IQ2=792.8 A, IQ3=378.8 A,
IQ4=137.7 A, IQ5=404.5 A, IQ6=291.6 A,
UC(+-)=87.9 kV, ID22=507.2 A, ID8=418.2 A.

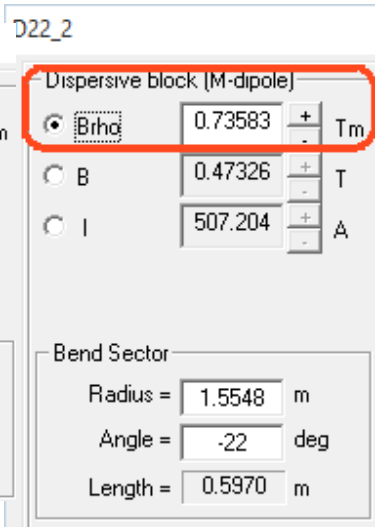
UC(total)=175.8



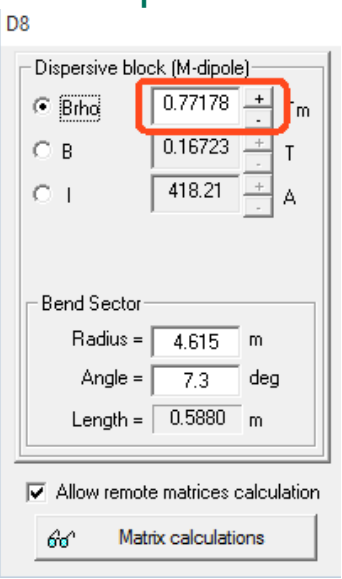
1st dipole



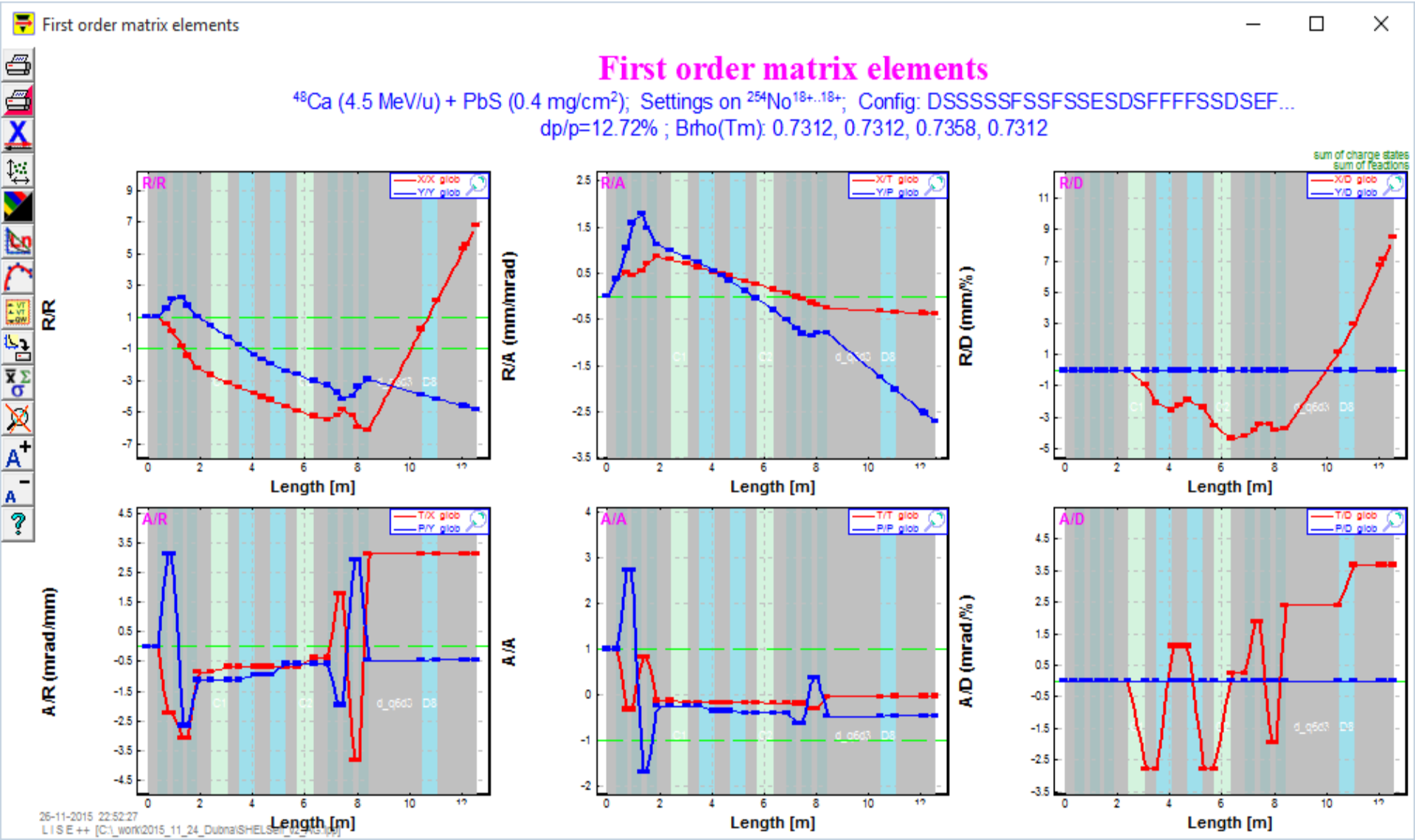
2nd dipole



3rd dipole



Optics settings



Transmission : Analytical

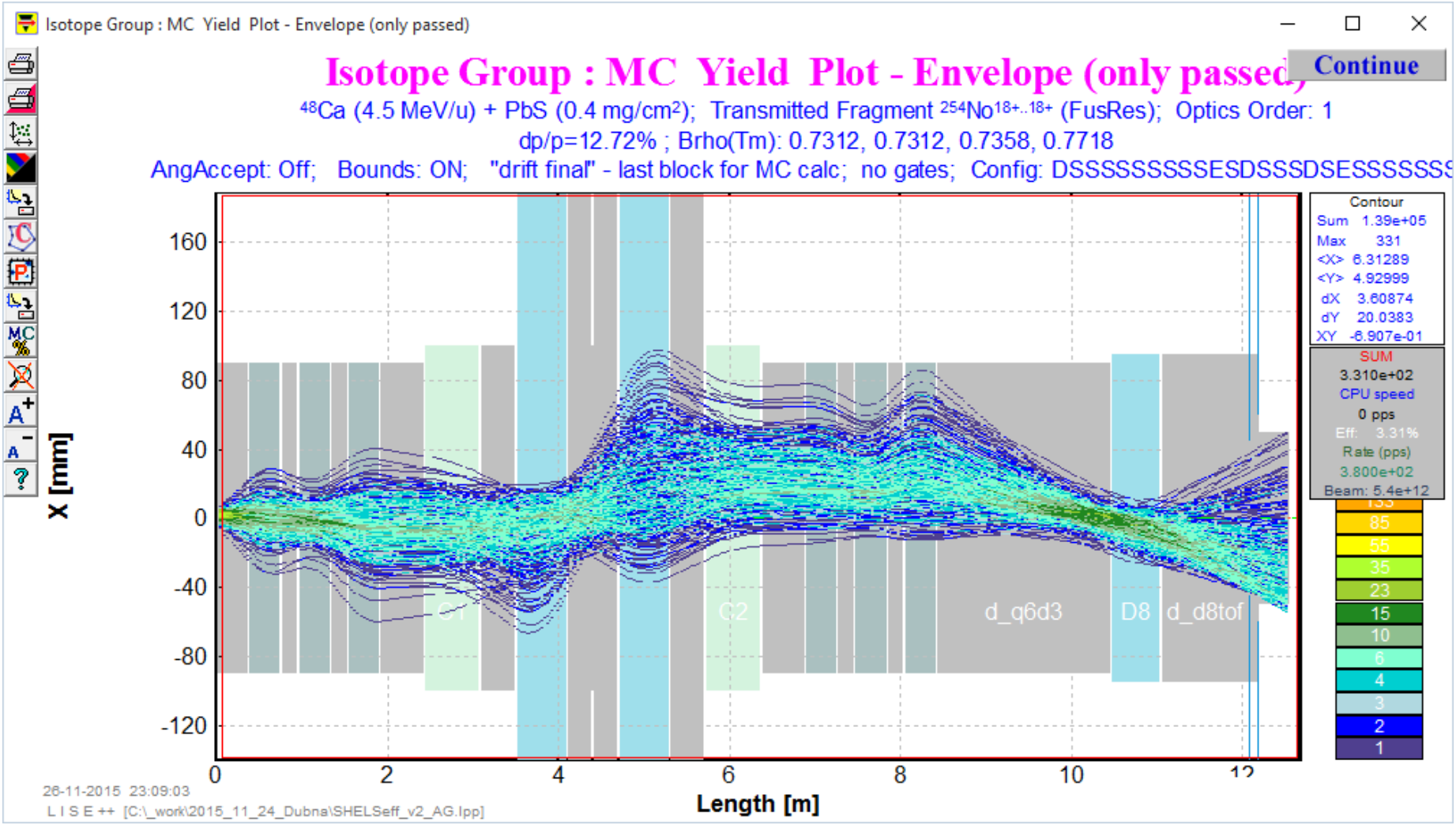
statistics: 254No

254No Alpha and Beta+ decay (Z=102, N=152) Nobelium

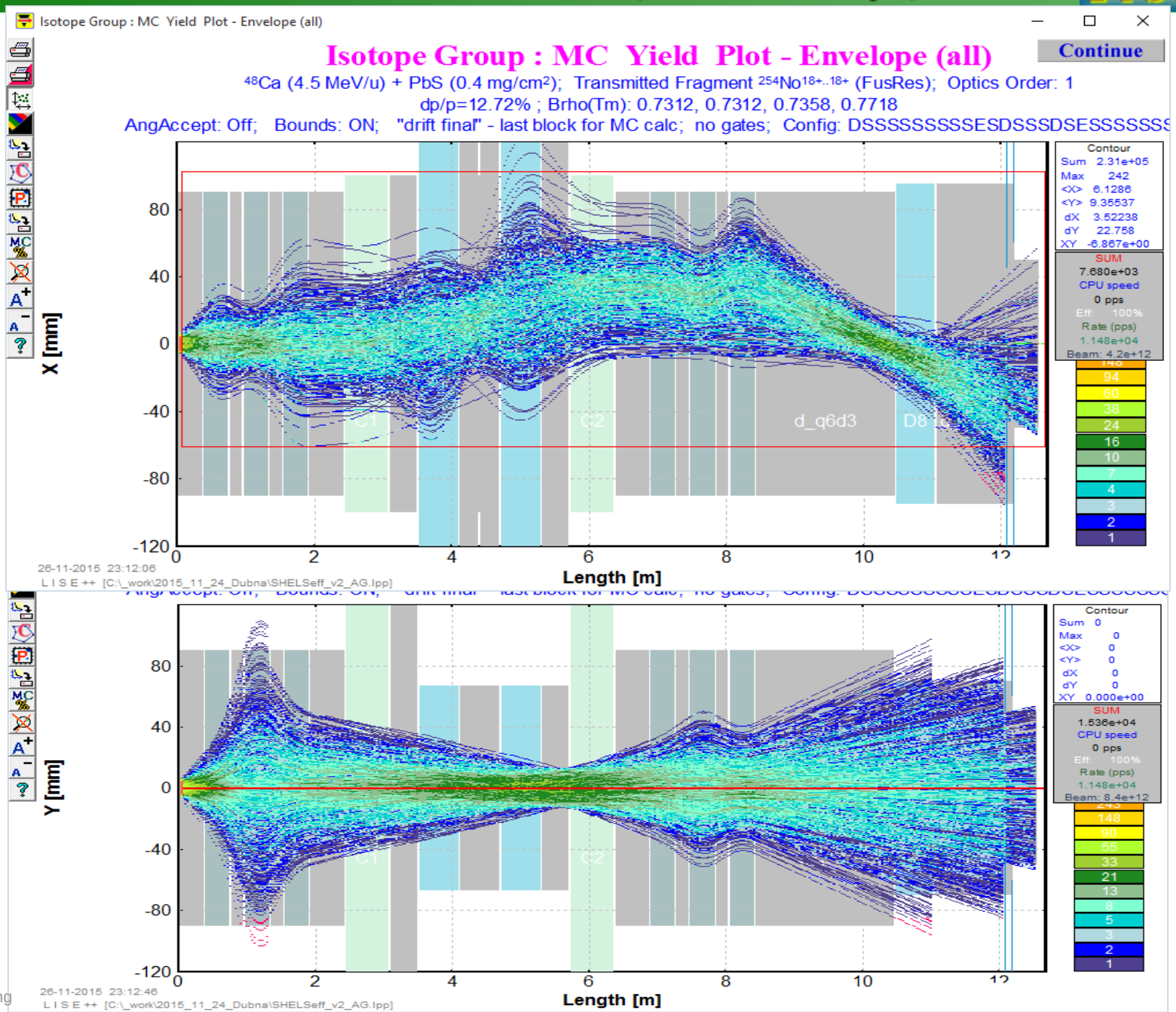
All reactions total isotope rate		2.02e+0	pps				
and Overall isotope transmission		33.232	%				
Q1(tuning)		25	24	23	22	21	20
Q2(C1)		25	24	23	22	21	20
Q3(D22_1)		25	24	23	22	21	20
Q4(D22_2)		25	24	23	22	21	20
Q5(C2)		25	24	23	22	21	20
Q6(D8)		25	24	23	22	21	20
Reaction		FusRes	FusRes	FusRes	FusRes	FusRes	Fus
Ion Production Rate	(pps)	2.02e-1	9.25e-1	3.2e+0	8.93e+0	1.92e+1	3.3
Total ion transmission	(%)	0.023	0.105	0.362	1.011	2.179	3.7
Total this reaction	(pps)						

Transmission : Monte Carlo

Transmission 44%



Transmission : Monte Carlo (show all rays)



If All dispersive blocks set to q=18+ by LISE^{++}

All block rigidities set to 0.77507 Tm

Analytical transmission	46.6%
Monte Carlo Transmission	60.7%

Files are included :

SHELSeff_v2.lpp
SHELSeff_v2_AG_brho_calc.lpp