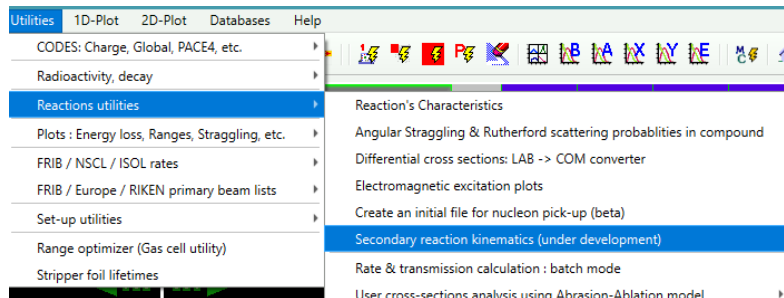
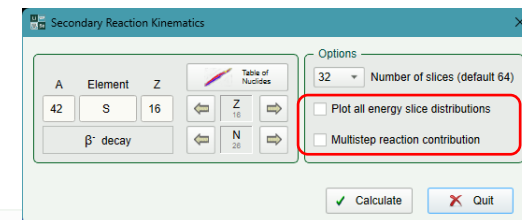
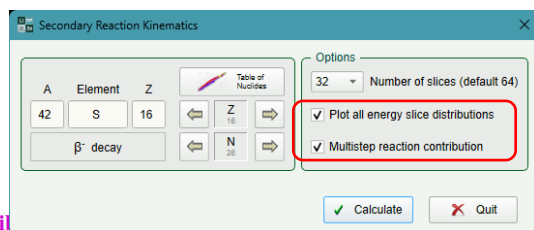


v.17.5
05/05/24

- Kinematics of secondary reaction products
- Transmission calculation option: List of Isotopes
- Calculation results : Rates table
- Silent mode
- Rates calculation from command string
- Fragmentation CS plots: plots selection to draw
- All modifications v.17.3.2-17.5.1

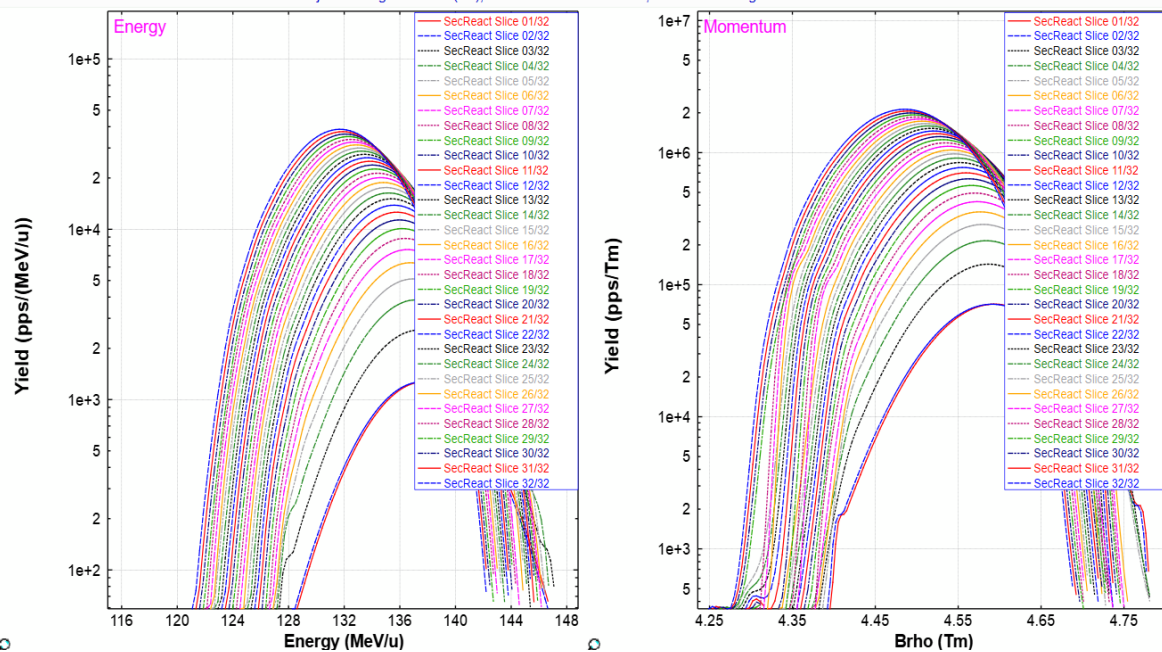


Sorry! The current dialog is still under development, in order to avoid confusion with calculation results, please,



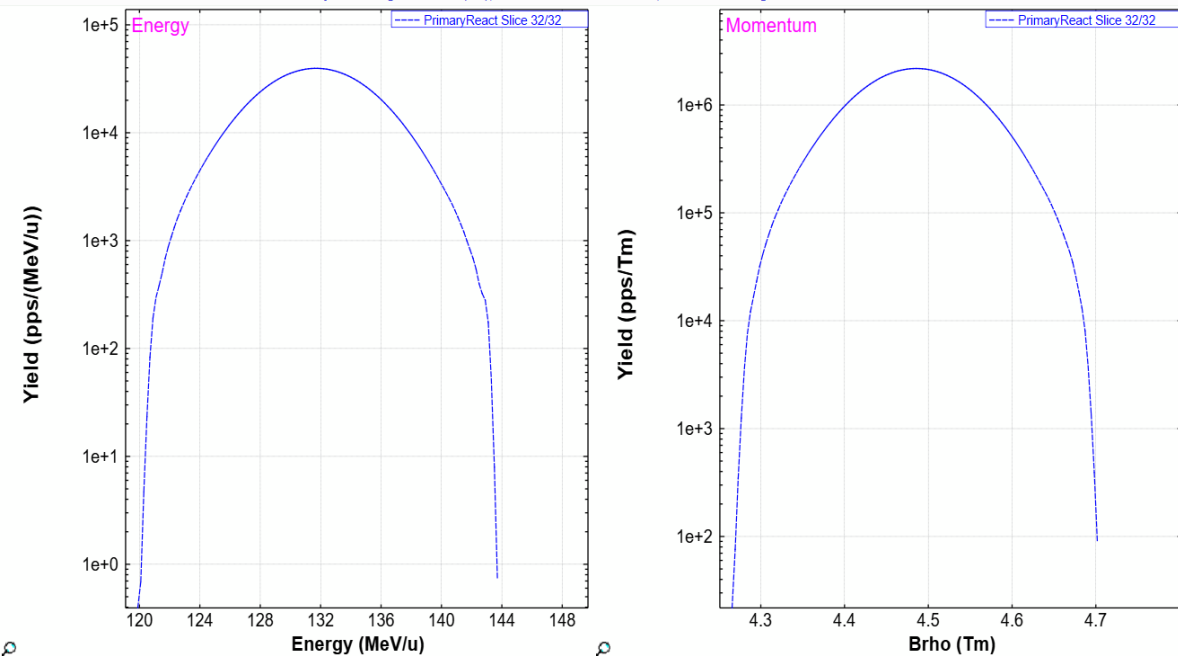
Energy slice distrib

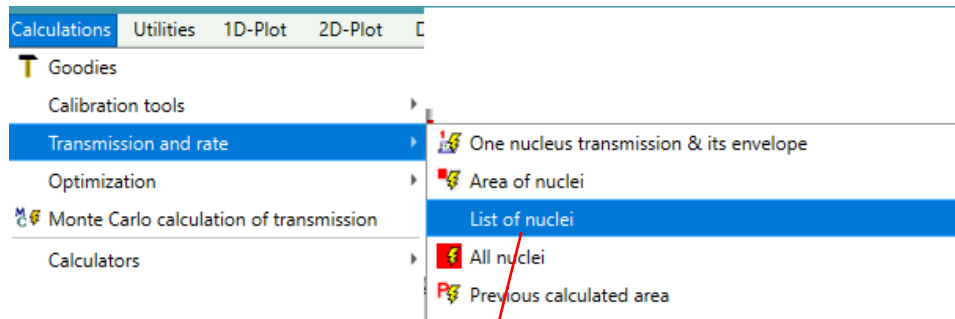
^{48}Ca (140 MeV/u) + Be (180 mg/cm²) → ^{42}S (NP_{sec}=32)
 Velocity model (u/u₀): Calculation(DJM); Momentum width: [1] D.J.M.
 1st reaction: Projectile Fragmentation (E3); 2nd reaction: EPAX 3.1a; Number of fragments used in calculations: 30



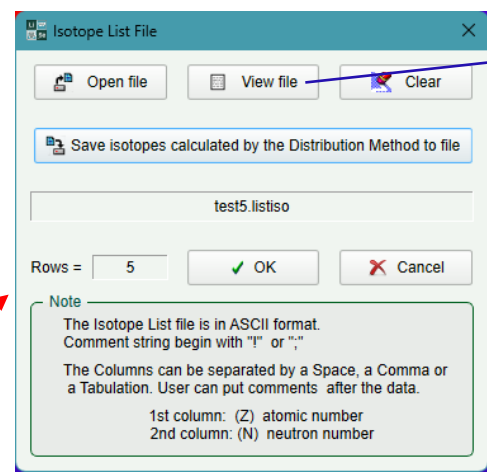
Energy slice distributions

^{48}Ca (140 MeV/u) + Be (180 mg/cm²) → ^{42}S (NP_{sec}=32)
 Velocity model (u/u₀): Calculation(DJM); Momentum width: [1] D.J.M.
 1st reaction: Projectile Fragmentation (E3); 2nd reaction: EPAX 3.1a; Number of fragments used in calculations: 30

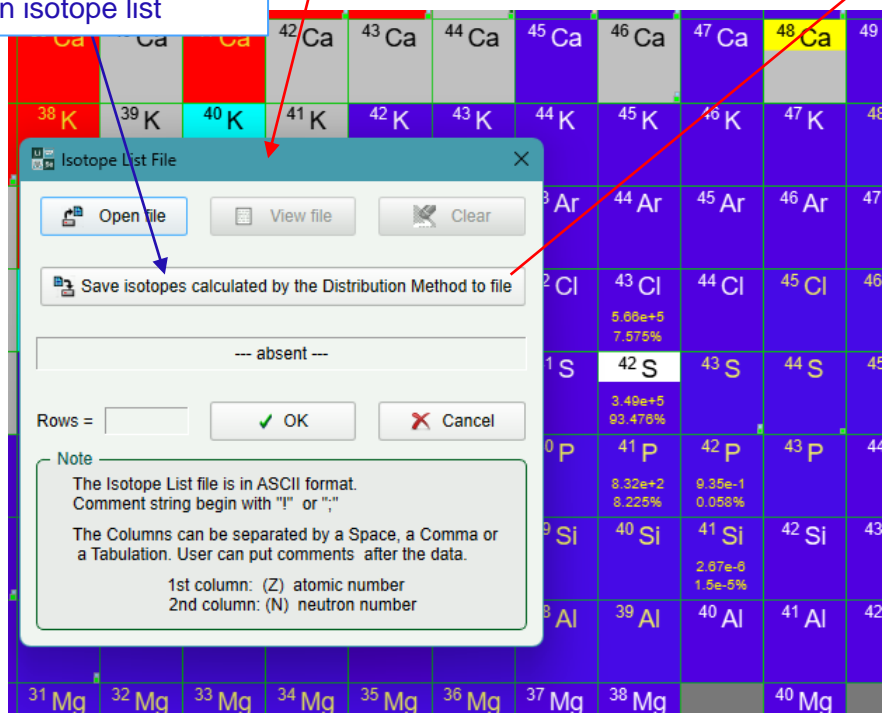




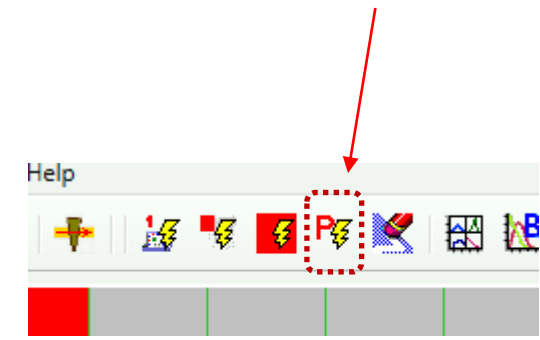
Use this button to add already calculated isotopes to an isotope list



Z	N	Reaction	Q1	Q2..		
16	26	R0	16+	16+	16+	16+
17	26	R0	17+	17+	17+	17+
15	26	R0	15+	15+	15+	15+
15	27	R0	15+	15+	15+	15+
14	27	R0	14+	14+	14+	14+



Use the "previous calculated area" to repeat Transmission calculation with the List of Isotopes

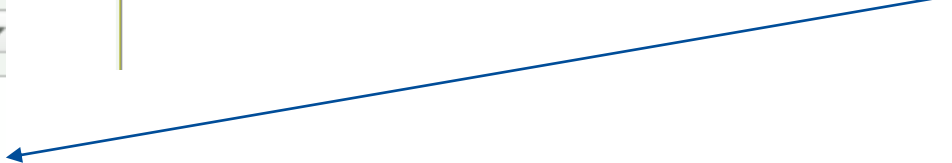


Save As Print PrintView Consolas 9

A	43	42	42	41	41
Z	17	16	15	15	14
N	26	26	27	26	27
Q1	17	16	15	15	14
Q2	17	16	15	15	14
Q3	17	16	15	15	14
Q4	17	16	15	15	14
React	0	0	0	0	0
Rate(pps) after:					
Stripper	7.33e+06	3.66e+05	1.57e+03	9.94e+03	17.5
D1	7.21e+06	3.58e+05	1.52e+03	9.59e+03	16.8
I1_slits	2.7e+06	3.57e+05	11.8	2.92e+03	3.65e-05
D2	2.7e+06	3.57e+05	11.8	2.92e+03	3.65e-05
I2_slits	5.67e+05	3.49e+05	0.937	835	2.68e-06
I2_wedge	5.67e+05	3.49e+05	0.937	835	2.68e-06
D3	5.66e+05	3.49e+05	0.935	833	2.67e-06
D4	5.66e+05	3.49e+05	0.935	833	2.67e-06
FP_PPAC0	5.66e+05	3.49e+05	0.935	833	2.67e-06
FP_PPAC1	5.66e+05	3.49e+05	0.935	833	2.67e-06
FP_slits	5.66e+05	3.49e+05	0.935	833	2.67e-06
FP_PIN	5.63e+05	3.47e+05	0.93	828	2.66e-06
FP_SCI	0	0	0	0	0

File Options Experimental Settings Physics Models Calculations Utilities 1D-Plot 2D-Plot

- Open... Ctrl+O
- Append blocks from file...
- Save Ctrl+S
 - Save As...
- View
- Comments
- Configuration
- Options
- Results**
 - Transmission + Energy, TOF, Energy Loss
 - Transmission
 - Energy, TOF, Energy Loss
 - Rates**
 - Transmission A, Z, q-first (summarized by reaction)
 - Transmission A, Z, q-last (summarized by reactions)
- Block List File



Silent mode, Rate results

- -s : silent mode. LISE will be closed after calculation
- If no “-listiso” key, then FOI rates will be calculated
- -s & -listiso cannot be used without LISE file name
- Rate result file = LISE_filename + “.res5”

Command line arguments: `c:/temp/test/82Se_54K.lpp -listiso=c:/temp/test/test3.listiso -s`

Name	Ext	Size
[.]	<DIR>	
82Se_54K	lpp	76.870
test3	listiso	337
82Se_54K	res5	1.495

Lister - [c:\temp\test\test3.listiso]

File	Edit	Options	Encoding	Help
18	2	N	Reaction	Q1 Q2 ..
16	30	R0	18+	18+ 18+ 18+
16	32	R0	16+	16+ 16+ 16+
18	32	R0	18+	18+ 18+ 18+
18	34	R0	18+	18+ 18+ 18+
19	35	R0	19+	19+ 19+ 19+
20	36	R0	20+	20+ 20+ 20+
21	35	R0	21+	21+ 21+ 21+
21	37	R0	21+	21+ 21+ 21+
20	34	R0	20+	20+ 20+ 20+
19	33	R0	19+	19+ 19+ 19+
17	33	R0	17+	17+ 17+ 17+

A	58	56	56	54	54	52	52	50	48	50	48	46
Z	21	21	20	20	19	19	18	18	18	17	16	16
N	37	35	36	34	35	33	34	32	30	33	32	30
Q1	21	21	20	20	19	19	18	18	18	17	16	16
Q2	21	21	20	20	19	19	18	18	18	17	16	16
Q3	21	21	20	20	19	19	18	18	18	17	16	16
Q4	21	21	20	20	19	19	18	18	18	17	16	16
React	0	0	0	0	0	0	0	0	0	0	0	0
Rate(pps) after:												
Target	0.108	14	0.0189	3.19	0.00314	0.696	0.000499	0.145	24.4	7.56E-05	1.09E-05	0.00559
Stripper	0.108	14	0.0189	3.19	0.00314	0.696	0.000499	0.145	24.4	7.56E-05	1.09E-05	0.00559
D1	0.105	13.5	0.0182	3.04	0.00297	0.65	0.000463	0.133	21.7	6.84E-05	9.74E-06	0.00487
I1_slits	0.0663	0.333	0.0157	0.438	0.00278	0.258	0.000374	0.0908	1.3	3.37E-05	1.79E-06	0.004
D2	0.0663	0.333	0.0157	0.438	0.00278	0.258	0.000374	0.0908	1.3	3.37E-05	1.79E-06	0.004
I2_slits	0.0376	0.0384	0.0125	0.116	0.00241	0.123	0.000284	0.0624	0.332	2.00E-05	7.86E-07	0.00311
I2_wedge	0.0376	0.0384	0.0125	0.116	0.00241	0.123	0.000284	0.0624	0.332	2.00E-05	7.86E-07	0.00311
D3	0.0375	0.0383	0.0124	0.115	0.0024	0.122	0.000283	0.0622	0.33	1.99E-05	7.83E-07	0.0031
D4	0.0375	0.0383	0.0124	0.115	0.0024	0.122	0.000283	0.0622	0.33	1.99E-05	7.83E-07	0.0031
FP_PPAC0	0.0375	0.0383	0.0124	0.115	0.0024	0.122	0.000283	0.0622	0.33	1.99E-05	7.83E-07	0.0031
FP_PPAC1	0.0375	0.0383	0.0124	0.115	0.0024	0.122	0.000283	0.0622	0.33	1.99E-05	7.83E-07	0.0031
FP_slits	0.0375	0.0383	0.0124	0.115	0.0024	0.122	0.000283	0.0622	0.33	1.99E-05	7.83E-07	0.0031
FP_PIN	0.0373	0.0381	0.0124	0.114	0.00239	0.122	0.000281	0.0618	0.328	1.98E-05	7.78E-07	0.00308
FP SCI	0	0	0	0	0	0	0	0	0	0	0	0

Projectile fragmentation

^{48}Ca (140.0 MeV/u) + Be \rightarrow ^{42}S

Fragment velocity | Momentum distribution | Cross section, Excitation energy and etc.

Prefragment and Evaporation options | Excitation energy for Abrasion-Ablation model

Cross Sections

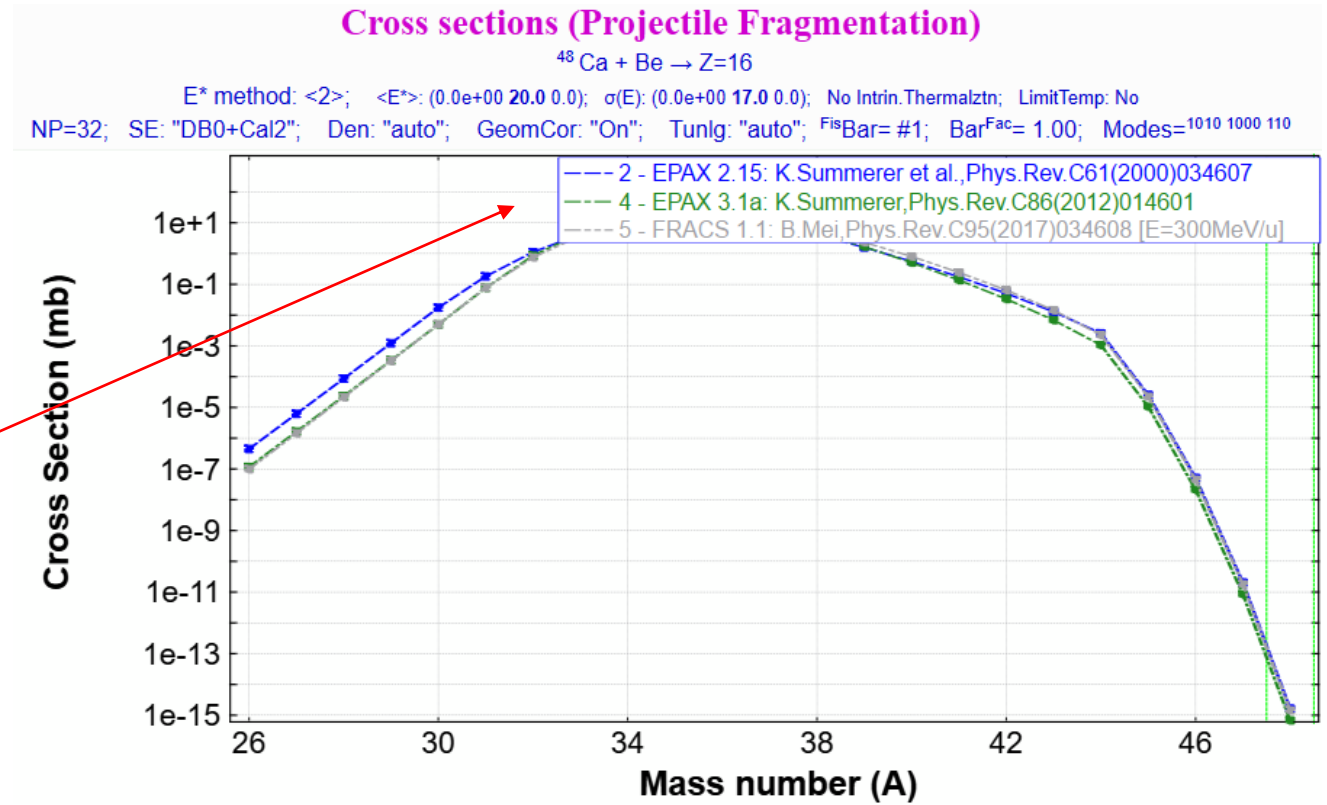
Default Model to use in calculations: 4 - EPAX 3.1a: K.Summerer,Phys.Rev.C86(2012)014601

Models to plot in "All methods": Yes: 4 - EPAX 3.1a

Use O.T.'s manual corrections for light charge particles (H, He, Li) production cross sections

Plot

- | | |
|-------------------------|---------|
| No : 0 - AA | Default |
| No : 1 - EPAX 1.00 | ? |
| Yes: 2 - EPAX 2.15 | No |
| No : 3 - EPAX 2.15+user | Yes |
| Yes: 4 - EPAX 3.1a | No |
| Yes: 5 - FRACS 1.1 | Yes |



- 17.3.2 03/25/24 Secondary reaction kinematics: development started
- 17.3.3 03/25/24 Z & N values in CN-dialogs
- 17.3.4 03/26/24 Migration to Qt v.6.6.2
- 17.3.5 **03/27/24 L_Trans_Wedge : corrections in the shift position case**
- 17.3.6 03/27/24 discovery iso-file for updated based on <https://frib.msu.edu/public/nuclides>
- 17.3.7 03/27/24 discovery project link from LISE
- 17.3.8 03/27/24 discovery links are modified for chen's folders
- 17.3.9 03/27/24 using share_ptr for Celement in o_class_physics.h
- 17.3.10 03/27/24 revision of Beam scattering in target
- 17.4.0 03/27/24 middle version was changed
- 17.4.1 04/12/24 Copy/Past distributions in Graph : no disable issue, warning if empty
- 17.4.2 04/12/24 compiled with qt v.6.7
- 17.4.3 04/17/24 no plots after target, only after stripper
- 17.4.4 04/20/24 Fragmentation CS plot all methods : selection to plot
- 17.4.5 04/20/24 Fragmentation CS plot --- correction for error plotting
- 17.4.6 04/20/24 Secondary reactions : sum of lost
- 17.4.7 04/21/24 Secondary reactions dialog update
- 17.4.8 04/29/24 update of secondary reaction kinematics
- 17.4.9 04/30/24 DrawThisDist flag for plot statistics
- 17.4.10 04/30/24 Secondary Reactions Kinematics dialog update for plot AI and Number of Slices
- 17.4.11 04/30/24 energy loss with trans_after_lose in Secondary Reactions Kinematics
- 17.4.12 05/01/24 password energy for the Secondary Reactions Kinematics dialog
- 17.4.13 05/02/24 SpecialSilentMode (GSI request) "-s" run FOI transmission, save results
- 17.4.14 05/02/24 Tong's patch manually has been merged
- 17.4.15 05/03/24 Working on Special Silent Mode
- 17.4.16 05/03/24 Transmission: List of Isotopes (shell)
- 17.4.17 05/03/24 Revision of trans prev area
- 17.4.18 05/03/24 Transmission: List of Isotopes (completed)
- 17.4.19 05/03/24 Menu->Results->Rates
- 17.4.20 05/03/24 Menu->Results->*** no more "print"
- 17.4.21 05/03/24 Results "Rate" completed
- 17.4.22 05/04/24 new argument -listiso
- 17.5.0 05/05/24 middle version changed
- 17.5.1 05/05/24 correction in secondary reactions kinematics for the primary reaction mode