

v.16.15.12
05/26/23

ARIS saveset

e22501_198Pt/saveset/2023_01_21_10h12m29.txt

Save As Print PrintView Consolas | 9

OCT_D1035	1.058	0.000	-0.000-00	-0.000-00	0.0000	-0.0075	OCT_D1035
OCT_D1137	1.654	0.000	-0.000-00	-0.000-00	0.0000	-0.0047	OCT_D1137
OCT_D1148	3.070	0.000	-0.000-00	-0.000-00	0.0000	-0.0082	OCT_D1148
OCT_D1170	0.000	0.000	-0.000-00	-0.000-00	0.0000	-0.0074	OCT_D1170
-----F1S2-BTS02-----							
Q_D1195	4.770	4.770	1.000000	1.000000	137.5275	137.5487	Q_D1195
Q_D1207	-4.857	-4.954	1.020000	1.020000	-160.0133	-160.0336	Q_D1207
Q_D1218	3.430	3.430	1.000000	1.000000	97.4303	97.4250	Q_D1218
DV_D1246	-0.863	-0.840	0.973001	0.972646	-109.6178	-109.6394	DV_D1246
Q_D1288	0.740	0.740	1.000000	1.000000	20.7819	20.7677	Q_D1288
Q_D1299	-2.367	-2.367	1.000000	1.000000	-75.7597	-75.7777	Q_D1299
Q_D1311	1.806	1.806	1.000000	1.000000	51.7411	51.7416	Q_D1311
S_D1195	-2.569	0.000	-0.000-00	-0.000-00	0.0000	-0.0103	S_D1195
S_D1207	-2.108	0.000	-0.000-00	-0.000-00	0.0000	-0.0037	S_D1207
S_D1218	1						S_D1218
S_D1288	1						S_D1288
S_D1299	-1						S_D1299
S_D1311	0						S_D1311
OCT_D1195	2						OCT_D1195
OCT_D1207	-2						OCT_D1207
OCT_D1218	1.947	0.000	-0.000-00	-0.000-00	0.0000	-0.0213	OCT_D1218
OCT_D1288	1.627	0.000	-0.000-00	-0.000-00	0.0000	-0.0034	OCT_D1288
OCT_D1299	-2.378	0.000	-0.000-00	-0.000-00	0.0000	-0.0042	OCT_D1299
OCT_D1311	3.236	0.000	-0.000-00	-0.000-00	0.0000	-0.0041	OCT_D1311
-----F1S2-BTS03-----							
Q_D1338	0.839	0.839	1.000000	1.000000	24.3924	24.3961	Q_D1338
Q_D1349	-1.824	-1.824	1.000000	1.000000	-58.3932	-58.4054	Q_D1349

dipole defines rigidity of entire segment 3Q+D+3Q

Multipole: WIQ5 <-> FS_F1S1:Q_D1148

Magnetic Multipole Settings

L_{eff} (effective length) mode: <File> 0.79809 m

Block settings, information

Block length 0.7 m

calibration: I,B,Leff,G FSQ5_S1_2020

Linked to segment (disperse block) Upstream dipole

Linked segment name FS_F1S1:DV_D1108

Setting fragment current (Real) Bp-value 4.4985 Tm

Setting fragment ^{29}Mg

B & S field values in Fitting

QUADrupole SEXTupole

Use in Fitting process

Use Bounds constraints

Lower bound -20 -20 kG

Upper bound 20 20 kG

if Brho-value has been changed then

no actions

recalculate automatically B (fields), keep the matrix [Recommended]

recalculate automatically the matrix keep B (fields)

Corresponding Brho value (will be used for scaling to linked segment)

Bp-value corresponding to current multipole field 4.4985 Tm

set current value from setup

Calculate 2nd order matrix elements

no link

Upstream dipole

Downstream dipole

First-order quadrupole matrix

$$\begin{pmatrix} \cos k_q L & \frac{1}{k_q} \sin k_q L & 0 & 0 & 0 & 0 \\ -k_q \sin k_q L & \cos k_q L & 0 & 0 & 0 & 0 \\ 0 & 0 & \cosh k_q L & \frac{1}{k_q} \sinh k_q L & 0 & 0 \\ 0 & 0 & k_q \sinh k_q L & \cosh k_q L & 0 & 0 \end{pmatrix}$$

Definitions: L = the effective length of the quadrupole
a = the radius of the aperture
 B_0 = the field at radius a
 $k_q^2 = (B_0/a)(1/B\rho_0)$, where $(B\rho_0)$ = the magnetic rigidity (momentum) of the central trajectory.

Optics settings: Dipoles & Quads

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! FILE: C:/temp/eL_ARIS_v2_run1306read.lpp; Optics settings: Dipoles & Quads

1	2	3	4	5	6	7	8	9	1
N	Block name	Official name	Kind of Block	Start (m)	Length (m)	DriftMode Angle*	B0(kG)	Br-corrsp Br-dip*	Ra R(
1.	dummy	dummy_preseparator	Dipole	0.000	0.000	+0.0 *	+14.511	4.4985*	3.
2.	WIQ1	FS_F1S1:Q_D1013	Drift	0.887	0.825	QUAD-d	+5.468	4.4985	10
3.	WIQ2	FS_F1S1:Q_D1024	Drift	1.850	1.050	QUAD-d	-9.295	4.4985	13
4.	WIQ3	FS_F1S1:Q_D1035	Drift	2.950	1.050	QUAD-d	+6.231	4.4985	13
5.	FSD1_SCD1	FS_F1S1:DV_D1064	Dipole	5.400	2.167	+30.0 *	+10.866	4.4985*	4.
6.	FSD1_SCD2	FS_F1S1:DV_D1108	Dipole	9.844	2.170	-30.0 *	+10.853	4.4985*	4.
7.	WIQ4	FS_F1S1:Q_D1137	Drift	13.463	0.700	QUAD-u	+8.534	4.4985	20
8.	WIQ5	FS_F1S1:Q_D1148	Drift	14.551	0.700	QUAD-u	-10.250	4.4985	20
9.	WIQ7	FS_F1S1:Q_D1170	Drift	16.838	0.700	QUAD-u	+5.584	4.4985	20
10.	CIQT1A	FS_F1S2:Q_D1195	Drift	19.353	0.650	QUAD-d	+11.583	4.1833	19
11.	CIQT1B	FS_F1S2:Q_D1207	Drift	20.401	0.800	QUAD-d	-11.568	4.1833	19
12.	CIQT1C	FS_F1S2:Q_D1218	Drift	21.598	0.650	QUAD-d	+8.577	4.1833	19
13.	FSD1_SCD3	FS_F1S2:DV_D1246	Dipole	23.045	3.595	-50.0 *	+10.156	4.1833*	4.
14.	CIQT2A	FS_F1S2:Q_D1288	Drift	28.732	0.650	QUAD-u	+1.672	4.1833	19
15.	CIQT2B	FS_F1S2:Q_D1299	Drift	29.779	0.800	QUAD-u	-5.381	4.1833	19
16.	CIQT2C	FS_F1S2:Q_D1311	Drift	30.976	0.650	QUAD-u	+5.090	4.1833	19
17.	CIQT3A	FS_F1S2:Q_D1338	Drift	33.739	0.650	QUAD-d	+1.887	4.1833	19
18.	CIQT3B	FS_F1S2:Q_D1349	Drift	34.786	0.800	QUAD-d	-5.030	4.1833	19
19.	CIQT3C	FS_F1S2:Q_D1361	Drift	35.983	0.650	QUAD-d	+3.279	4.1833	19
20.	FSD2_SCD4	FS_F1S2:DV_D1402	Dipole	38.725	3.581	+50.0 *	+10.193	4.1833*	4.
21.	CIQT4A	FS_F1S2:Q_D1430	Drift	43.040	0.650	QUAD-u	+2.859	4.1833	15
22.	CIQT4B	FS_F1S2:Q_D1441	Drift	44.083	0.800	QUAD-u	-6.264	4.1833	15
23.	CIQT4C	FS_F1S2:Q_D1453	Drift	45.277	0.650	QUAD-u	+3.499	4.1833	15
24.	Q_D1476	FS_F2S1:Q_D1476	Drift	47.772	0.400	QUAD-d	+11.037	4.1833	15
25.	Q_D1484	FS_F2S1:Q_D1484	Drift	48.379	0.700	QUAD-d	-13.546	4.1833	15
26.	Q_D1492	FS_F2S1:Q_D1492	Drift	49.297	0.486	QUAD-d	+15.051	4.1833	21
27.	DH_D1513	FS_F2S1:DH_D1513	Dipole	50.462	2.392	+30.0 *	+9.158	4.1833*	4.
28.	Q_D1538	FS_F2S1:Q_D1538	Drift	53.930	0.400	QUAD-u	+8.582	4.1833	15

Optic settings (fast editing)

Block	Nick Name	Official Name	Start (m)	Length (m)	B0 (kG) * U	Br(Tm) cor * real	DriftM * Angle	R pole (cm) * Radius(m)	L eff (m) * L dip (m)	2nd order	Calc * Z
Fit	Q2_sR		2.9	0							
drift	DL_2.950		2.9	0.05			standard		c_0.2765		
<Quad>	WIQ3	FS_F1S1:Q_D1035	2.95	1.05	+6.2309	4.4985	QUAD-d	13.0000	c_0.8201	yes	1
Fit	Q3_sR		4	0							
drift	DL_5.400		4	1.4			standard		c_1.5149		
** Dipole	FSD1_SCD1	FS_F1S1:DV_D1064	5.4	2.1676	+10.8665	* 4.4985	* +30.0	* 4.1398	* 2.1676	yes	* C
drift	DL_8.970		7.568	1.476			standard				
slits	slit_IMG1		9.044	0			SLITS				
Fit	XTheta_D1064		9.044	0							
drift	DL_9.770		9.044	0.8			standard				
** Dipole	FSD1_SCD2	FS_F1S1:DV_D1108	9.844	2.1702	-10.8535	* 4.4985	* -30.0	* 4.1448	* 2.1702	yes	* C
drift	DL_13.314		12.014	1.449			standard		c_1.4029		
<Quad>	WIQ4	FS_F1S1:Q_D1137	13.463	0.7	+8.5340	4.4985	QUAD-u	20.0000	c_0.7921	yes	1
Fit	Q4_sR		14.163	0							
drift	DL_14.402		14.163	0.3877			standard		c_0.2926		
<Quad>	WIQ5	FS_F1S1:Q_D1148	14.551	0.7	-10.2500	4.4985	QUAD-u	20.0000	c_0.7981	yes	1
Fit	Q5_sR		15.251	0							
drift	DL_16.689		15.251	1.5873			standard		c_1.4899		
<Quad>	WIQ7	FS_F1S1:Q_D1170	16.838	0.7	+5.5840	4.4985	QUAD-u	20.0000	c_0.7967	yes	1
Fit	Q6_sR		17.538	0							
drift	DL_18.082		17.538	0.6929			standard		c_0.6445		
drift	DL_18.345		18.231	0.2635			standard				
slits	slits_PS_WED		18.494	0			SLITS				
drift	DL_18.407		18.404	0.0615			standard				

Selected block: Dispersive (M-dipole) Block Length [m] Block Edit Angular acceptance (mrad) Use Inside Aperture (mm) min max Use Slits (mm) after BL min max

"d" - downstream

"u" - downstream

Block	Nickname	Official	Z-q	Length, m	Enable
** Dipole	dummy	dummy_preseparator	0	0	✓
Rotate	RAm90			0	✓
drift	DL_0.1020			0.102	✓
drift	Post-Target ...			0.4	✓
drift	DL_0.5335			0.032	✓
drift	Vac. Sep. Valve			0.093	✓
drift	DL_0.8873			0.261	✓
<Quad>	WIQ1	FS_F1S1:Q_D1013		0.826	✓
Fit	Q1_sR			0	✓
drift	DL_1.8000			0.087	✓
drift	Fnt. Shld. WIQ2			0.05	✓
<Quad>	WIQ2	FS_F1S1:Q_D1024		1.05	✓
Fit	Q2_sR			0	✓
drift	DL_2.9500			0.05	✓
<Quad>	WIQ3	FS_F1S1:Q_D1035		1.05	✓
Fit	Q3_sR			0	✓
drift	DL_4.1500			0.15	✓
drift	DL_4.7500	FS_F1S1:CLLM_D1045		0.6	✓
drift	DL_5.4000			0.65	✓
Fit	Q4_sR			0	✓
drift	DL_8.9704	FS_F1S1:DV_D1064	0	2.094	✓
drift	DL_8.9704			1.476	✓
slits	slit_IMG1			0	✓
drift	DL_12.1148			0	✓
drift	Collimator/Shield	FS_F1S1:CLLM_D1092		0.4	✓
drift	DL_9.5576			0.4	✓
** Dipole	FSD1_SCD2	FS_F1S1:DV_D1108	0	2.094	✓
drift	DL_12.1148			0.25	✓
drift	Space for 2nd BD	FS_SBD:BD_D1125		0.674	✓

Block	Nickname	Official	Z-q	Length, m	Enable
Rotate	RAm90			0	✓
drift	DL_0.502			0.502	✓
slits	Post-target Shie...			0	✓
drift	DL_0.887			0.385	✓
<Quad>	WIQ1	FS_F1S1:Q_D1013		0.826	✓
Fit	Q1_sR			0	✓
drift	DL_1.850			0.137	✓
<Quad>	WIQ2	FS_F1S1:Q_D1024		1.05	✓
Fit	Q2_sR			0	✓
drift	DL_2.950			0.05	✓
<Quad>	WIQ3	FS_F1S1:Q_D1035		1.05	✓
Fit	Q3_sR			0	✓
drift	DL_5.400			1.4	✓
** Dipole	FSD1_SCD1	FS_F1S1:DV_D1064	0	2.168	✓
drift	DL_8.970			1.476	✓
slits	slit_IMG1			0	✓
Fit	XTheta_D1064			0	✓
drift	DL_9.770			0.8	✓
** Dipole	FSD1_SCD2	FS_F1S1:DV_D1108	0	2.17	✓
drift	DL_12.1148			1.449	✓
<Quad>	WIQ4	FS_F1S1:Q_D1045		0.7	✓
Fit	Q4_sR			0	✓
drift	DL_14.402			0.388	✓
<Quad>	WIQ5	FS_F1S1:Q_D1055		1.05	✓
Fit	Q5_sR			0	✓
drift	DL_16.689			1.587	✓
<Quad>	WIQ7	FS_F1S1:Q_D1170		0.7	✓
Fit	Q7_sR			0	✓
drift	DL_18.245			0.693	✓
Material	PS_WED_PPAC0	FS_F1S1:POSD_D1181			✓

eL_ARIS_v2_orig

All blocks according to ARIS lattice

292 blocks

eL_ARIS_v3

Multiple drift blocks compressed

244 blocks

Comparison of Quadrupole field settings

Experimental Settings Physics Models Calculate

- Projectile
- Target
- Stripper after Target
- Spectrometer Design
- Optics**
 - Tune spectrometer for the setting fragment on beam axis
 - Tune spectrometer for the setting fragment at middle of slit
 - Optic settings: FAST EDITING
 - Optic settings: View & Print
 - OPTIMIZATION (optical element parameters fitting)
 - Manual recalculation of e-blocks matrices (only for Experts!)
 - Update matrices linked with COSY files
 - Multipole: set Action for all multipoles if Brho-value changes
 - Envelope plot
 - First order matrix elements: Plot
 - First order matrix elements: View & Print
 - Calculate matrix between two selected blocks
 - Comparison of Quadrupole field settings**
 - Brho (Erho) Analyser
 - The First- and Second- Order Matrix Elements for an Ideal Maget
- Gamma registration
- Setting Fragment
- Tune spectrometer for the primary beam

Quad settings comparison

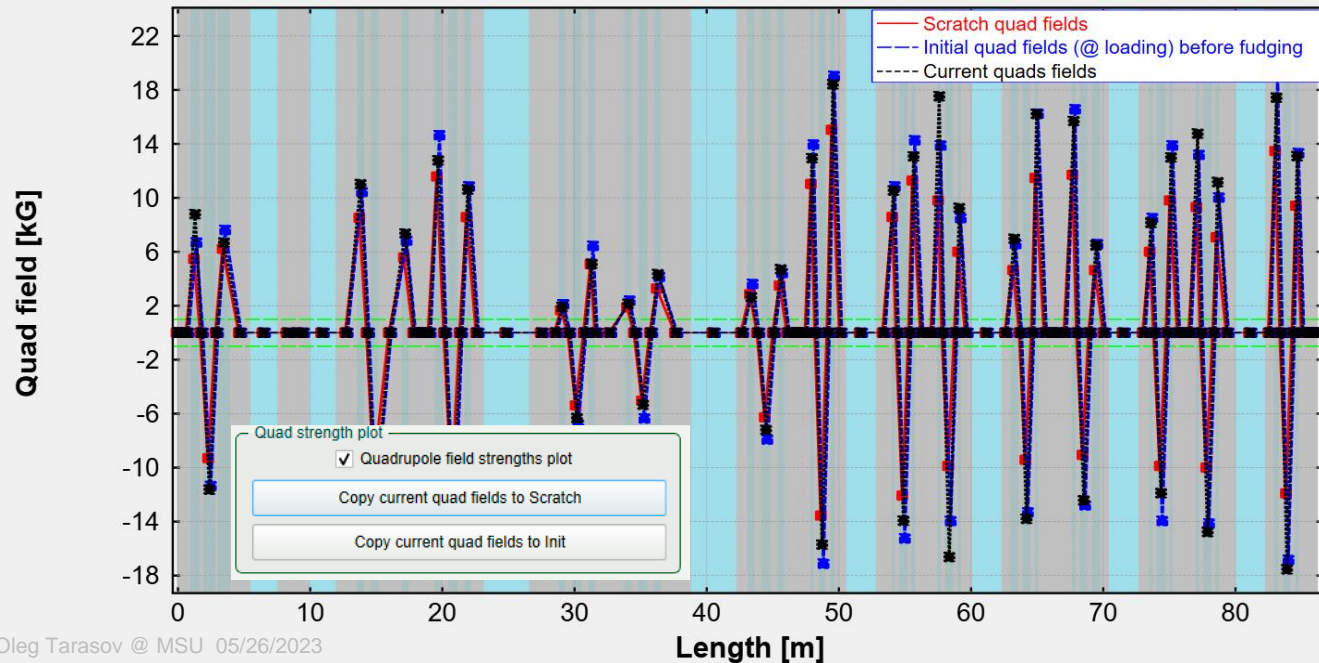
Save As Print PrintView Consolas 9

! FILE: C:/temp/eL_ARIS_v2_run1306read.lpp; Quad settings comparison

1	2	3	4	5	6	7	8	9
N	Block name	Official name	B-current	B(kG)-prev	B-scratch	curr/prev	curr/sqrt	prev/sqrt
1.	WIQ1	FS_F1S1:Q_D1013	+8.793	+6.686	+5.468	+24.0%	+37.8%	-22.3%
2.	WIQ2	FS_F1S1:Q_D1024	-11.638	-11.364	-9.295	+2.4%	+20.1%	-22.3%
3.	WIQ3	FS_F1S1:Q_D1035	+6.679	+7.618	+6.231	-14.1%	+6.7%	-22.3%
4.	WIQ4	FS_F1S1:Q_D1137	+11.013	+10.434	+8.534	+5.3%	+22.5%	-22.3%
5.	WIQ5	FS_F1S1:Q_D1148	-12.861	-12.532	-10.250	+2.6%	+20.3%	-22.3%
6.	WIQ7	FS_F1S1:Q_D1170	+7.353	+6.827	+5.584	+7.1%	+24.1%	-22.3%
7.	CIQT1A	FS_F1S2:Q_D1195	+12.769	+14.644	+11.583	-14.7%	+9.3%	-26.4%
8.	CIQT1B	FS_F1S2:Q_D1207	-13.825	-14.624	-11.568	-5.8%	+16.3%	-26.4%
9.	CIQT1C	FS_F1S2:Q_D1218	+10.609	+10.843	+8.577	-2.2%	+19.2%	-26.4%
10.	CIQT2A	FS_F1S2:Q_D1288	+1.920	+2.113	+1.672	-10.1%	+12.9%	-26.4%
11.	CIQT2B	FS_F1S2:Q_D1299	-6.330	-6.803	-5.381	-7.5%	+15.0%	-26.4%
12.	CIQT2C	FS_F1S2:Q_D1311	+5.107	+6.436	+5.090	-26.0%	+0.3%	-26.4%
13.	CIQT3A	FS_F1S2:Q_D1338	+2.139	+2.385	+1.887	-11.5%	+11.8%	-26.4%
14.	CIQT3B	FS_F1S2:Q_D1349	-5.337	-6.360	-5.030	-19.2%	+5.8%	-26.4%
15.	CIQT3C	FS_F1S2:Q_D1361	+4.343	+4.146	+3.279	+4.5%	+24.5%	-26.4%
16.	CIQT4A	FS_F1S2:Q_D1430	+2.645	+3.614	+2.859	-36.7%	-8.1%	-26.4%
17.	CIQT4B	FS_F1S2:Q_D1441	-7.217	-7.919	-6.264	-9.7%	+13.2%	-26.4%
18.	CIQT4C	FS_F1S2:Q_D1453	+4.695	+4.424	+3.499	+5.8%	+25.5%	-26.4%
19.	Q_D1476	FS_F2S1:Q_D1476	+12.934	+13.953	+11.037	-7.9%	+14.7%	-26.4%
20.	Q_D1484	FS_F2S1:Q_D1484	-15.709	-17.126	-13.546	-9.0%	+13.8%	-26.4%
21.	Q_D1492	FS_F2S1:Q_D1492	+18.403	+19.028	+15.051	-3.4%	+18.2%	-26.4%
22.	Q_D1538	FS_F2S1:Q_D1538	+10.533	+10.849	+8.582	-3.0%	+18.5%	-26.4%
23.	Q_D1545	FS_F2S1:Q_D1545	-13.943	-15.260	-12.070	-9.4%	+13.4%	-26.4%
24.	Q_D1553	FS_F2S1:Q_D1553	+13.068	+14.263	+11.281	-9.1%	+13.7%	-26.4%
25.	Q_D1573	FS_F2S2:Q_D1573	+17.527	+13.882	+9.813	+20.8%	+44.0%	-41.5%
26.	Q_D1580	FS_F2S2:Q_D1580	-16.632	-13.960	-9.868	+16.1%	+40.7%	-41.5%
27.	Q_D1588	FS_F2S2:Q_D1588	+9.243	+8.498	+6.008	+8.1%	+35.0%	-41.5%
28.	Q_D1629	FS_F2S2:Q_D1629	+6.958	+6.574	+4.647	+5.5%	+33.2%	-41.5%
29.	Q_D1639	FS_F2S2:Q_D1639	-13.800	-13.313	-9.411	+3.5%	+31.8%	-41.5%
30.	Q_D1646	FS_F2S2:Q_D1646	+16.214	+16.237	+11.478	-0.1%	+29.2%	-41.5%
31.	Q_D1674	FS_F3S1:Q_D1674	+15.693	+16.562	+11.707	-5.5%	+25.4%	-41.5%
32.	Q_D1682	FS_F3S1:Q_D1682	-12.441	-12.800	-9.048	-2.9%	+27.3%	-41.5%
33.	Q_D1691	FS_F3S1:Q_D1691	+6.474	+6.574	+4.647	-1.5%	+28.2%	-41.5%
34.	Q_D1733	FS_F3S1:Q_D1733	+8.139	+8.498	+6.008	-4.4%	+26.2%	-41.5%
35.	Q_D1740	FS_F3S1:Q_D1740	-11.899	-13.960	-9.868	-17.3%	+17.1%	-41.5%
36.	Q_D1748	FS_F3S1:Q_D1748	+12.990	+13.882	+9.813	-6.9%	+24.5%	-41.5%
37.	Q_D1767	FS_F3S2:Q_D1767	+14.757	+13.182	+9.318	+10.7%	+36.9%	-41.5%
38.	Q_D1775	FS_F3S2:Q_D1775	-14.780	-14.137	-9.993	+4.4%	+32.4%	-41.5%
39.	Q_D1783	FS_F3S2:Q_D1783	+11.162	+10.022	+7.085	+10.2%	+36.5%	-41.5%
40.	Q_D1827	FS_F3S2:Q_D1827	+17.421	+19.048	+13.465	-9.3%	+22.7%	-41.5%
41.	Q_D1835	FS_F3S2:Q_D1835	-17.544	-16.838	-11.902	+4.0%	+32.2%	-41.5%
42.	Q_D1843	FS_F3S2:Q_D1843	+13.084	+13.320	+9.415	-1.8%	+28.0%	-41.5%

Quadrupole field strengths

⁴⁰Ar (200 MeV/u) + C (7.99 mm); Settings on ²⁹Mg; Config: D0... without charge states
 dp/p=3.50%; Wedge(s): Al₉₄₈ Mg₄₄ Mn₅ Fe₂ Si (3.39 mm), Al₉₄₈ Mg₄₄ Mn₅ Fe₂ Si (6.02 mm), 0; B_p (Tm): 5.5000, 5.5000, 5.5000, 5.2887, 5.2887.... all reactions separ.



Use more distinct colors to make text and apps easier to see.

Theme preview

Aquatic Desert Dusk

Aquatic

Night sky

Contrast themes
Press left Alt + left Shift + Print Screen to turn a contrast theme on and off

Aquatic

New LISE palette

By Daniel Kaloyanov

v.16.15.3

LISE v.16.15.3 interface showing a target dialog box for Beryllium (Be). The dialog includes fields for Density, State of Matter (Solid/Gas), Dimension (mg/cm² & micron / g/cm² & mm), Angle, Thickness at 0 degrees, Effective Thickness, Atoms / cm³, d/Range (beam), Power Loss in target box, and Absorbed Dose. A table of elements is visible in the background.

Z	Element	Mass
<input checked="" type="checkbox"/>	Be	PT

v.16.15.12

LISE v.16.15.12 interface showing a target dialog box for Carbon (C). The dialog includes fields for Density, State of Matter (Solid/Gas), Dimension (mg/cm² & micron / g/cm² & mm), Angle, Thickness at 0 degrees, Effective Thickness, Atoms / cm³, d/Range (beam), Power Loss in target box, and Absorbed Dose. A table of elements is visible in the background.

Z	Element	Mass
<input checked="" type="checkbox"/>	6	C
<input type="checkbox"/>	PT	12.011

```

// 16.14.30    05/14/23
// Options to load dipole values with ARIS saveset reading

// 16.14.31    05/14/23
// Dipole calibration: if nCols==4, then col[2] (Brho) = col[1](B) * col[3](R)

// 16.14.32    05/14/23
// Quadrupole field strength plot : shifts were increased to 0.1

// 16.14.33    05/15/23
// PACE4 update

// 16.14.34    05/15/23
// correction: writing to root format spectra
// ROOT -- 3 columns format

// 16.14.35    05/15/23
// Update of d_Options dialog layout

// 16.14.36    05/15/23
// Fixed: bug with database structure arrow button.

// 16.14.37    05/16/23
// Modification of BI-headers (BI-code)

// 16.14.38    05/17/23
// Write spectrum ROOT files

// 16.14.39    05/17/23
// skip drift info to write in file in the case of non-quad

// 16.14.40    05/17/23
// skip zero row in writing 2nd order matrix

// 16.14.41    05/17/23
// Drift class: new parameter linkTo

// 16.14.42    05/17/23
// Modification of c_config and d_Multipole for drift::linkTo

// 16.14.43    05/17/23
// Modification of d_SetupOptics and Mainwindow_optics to show quad links

// 16.14.44    05/18/23
// Modification in Global code (MH's request)

// 16.14.45    05/18/23
// New ARIS eFiles: eL_ARIS_v2 and eL_ARIS_v2_orig

// 16.14.46    05/18/23
// correction in d_Multipoles with initializaton

// 16.15.1     05/18/23
// Middle version has been changed

// 16.15.2     05/18/23
// Update of p_Block_Drift for linked Brho

// 16.15.3     05/19/23
// eL_ARIS_v3 : corrections for C-Bend dipole maps

// 16.15.4     05/22/23
// Comparison_of_Quadrupole_field_settings

// 16.15.5     05/22/23
// SpeedBall timer start and stop functions after Sasha T. performance analysis

// 16.15.6     05/24/23
// renames B0_prev --> B0_scratch

// 16.15.7,8   05/25/23
// Completed: Comparison_of_Quadrupole_field_settings

// 16.15.9-11  05/26/23
// Modified : New LISE code palette -- DAK, then OT

// 16.15.12    05/26/23
// eL_ARIS_v3.lpp modified (see notes in file)

```