LISE++ *cute* block names policy

v.16.2.11
03/19/22

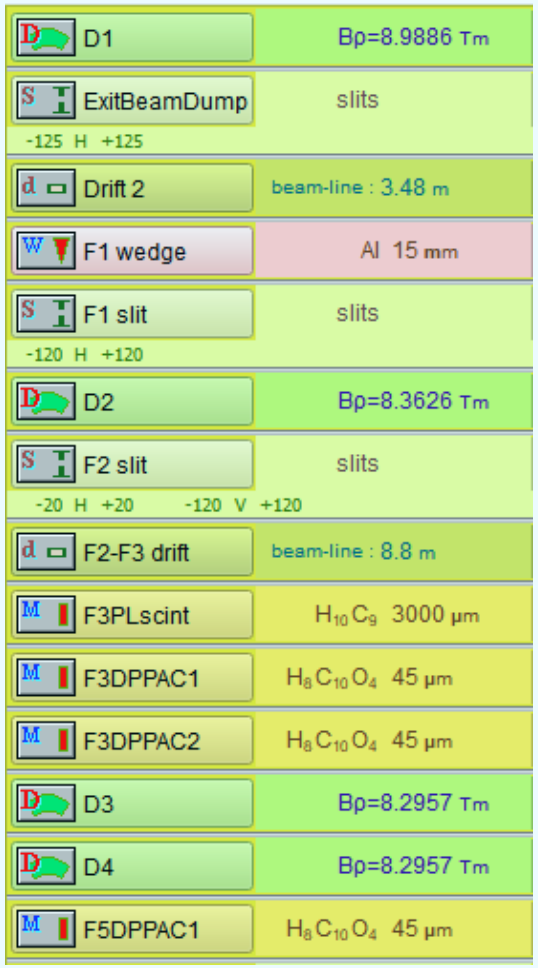
- Introduction
- New QString members of “BLOCK” class
- Work with names in the “Spectrometer design” dialog
- “Optic settings” dialog
- Block dialog titles
- Keeping block names in LISE files
- Block List File (BLF)
- Convert, Update, Replace Block Names with BLF

Introduction

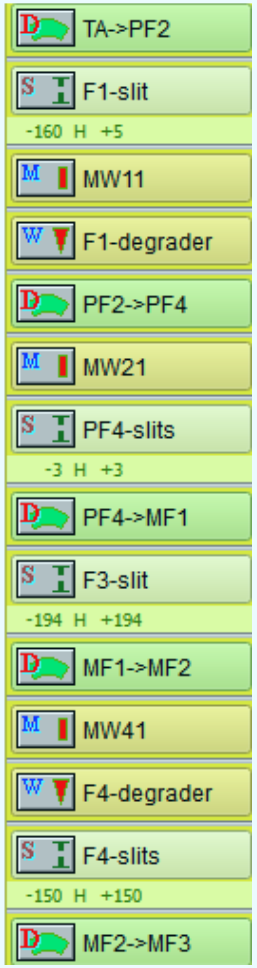
A1900 segmented

A1900 extended

BigRIPS



SuperFRS



Current ARIS..

what is the block??

FRIB users know this "official name" transcription to work?
It is hard to see because so long name was squeezed.

New QString members of “BLOCK” class

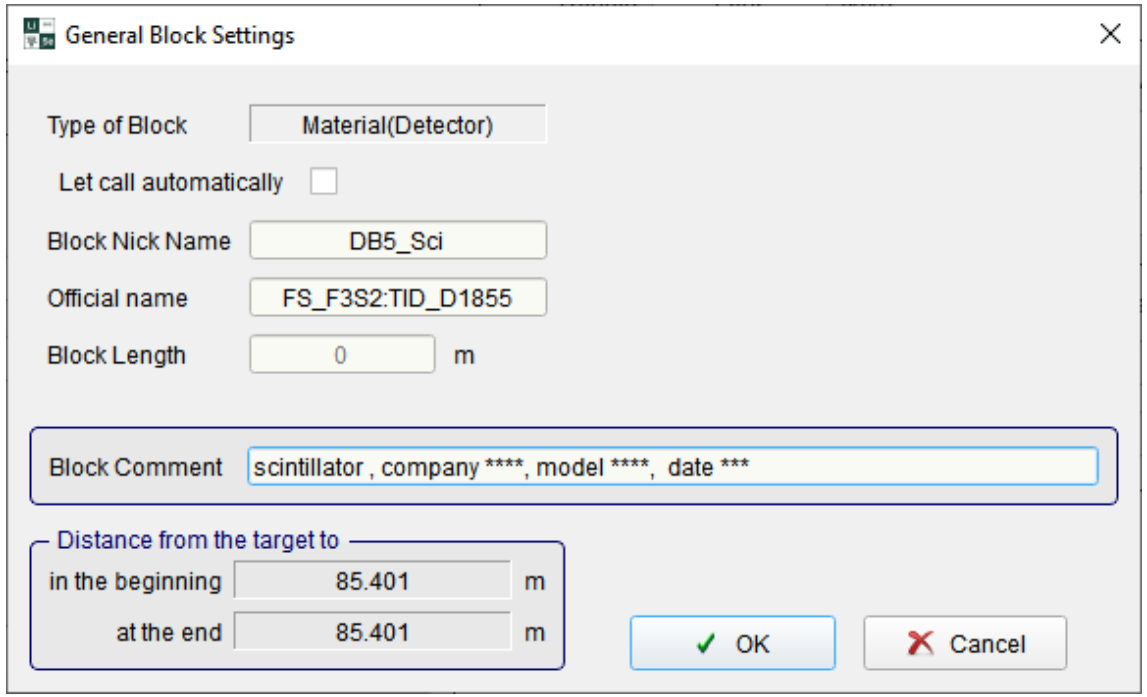
Version 16.2

class **BLOCK**

protected:
QString PrivateName;
QString OfficialName;
QString Comment;

New!

PrivateName (Nick Name) DB5_Sci
Official FS_F3S2:TID_D1855
Comment scintillator , company ****, model ****, date ***



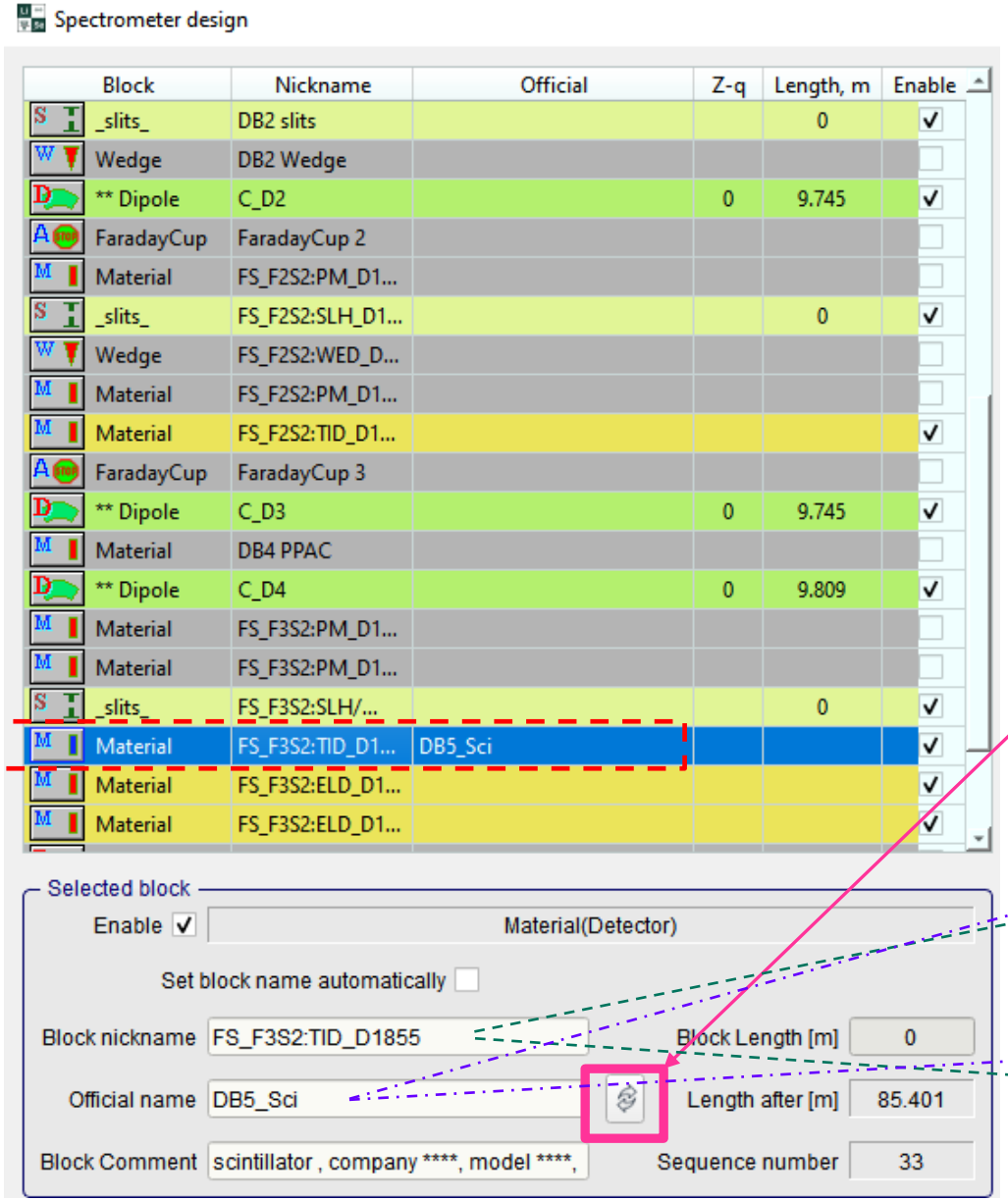
Version 16.1

class **BLOCK**

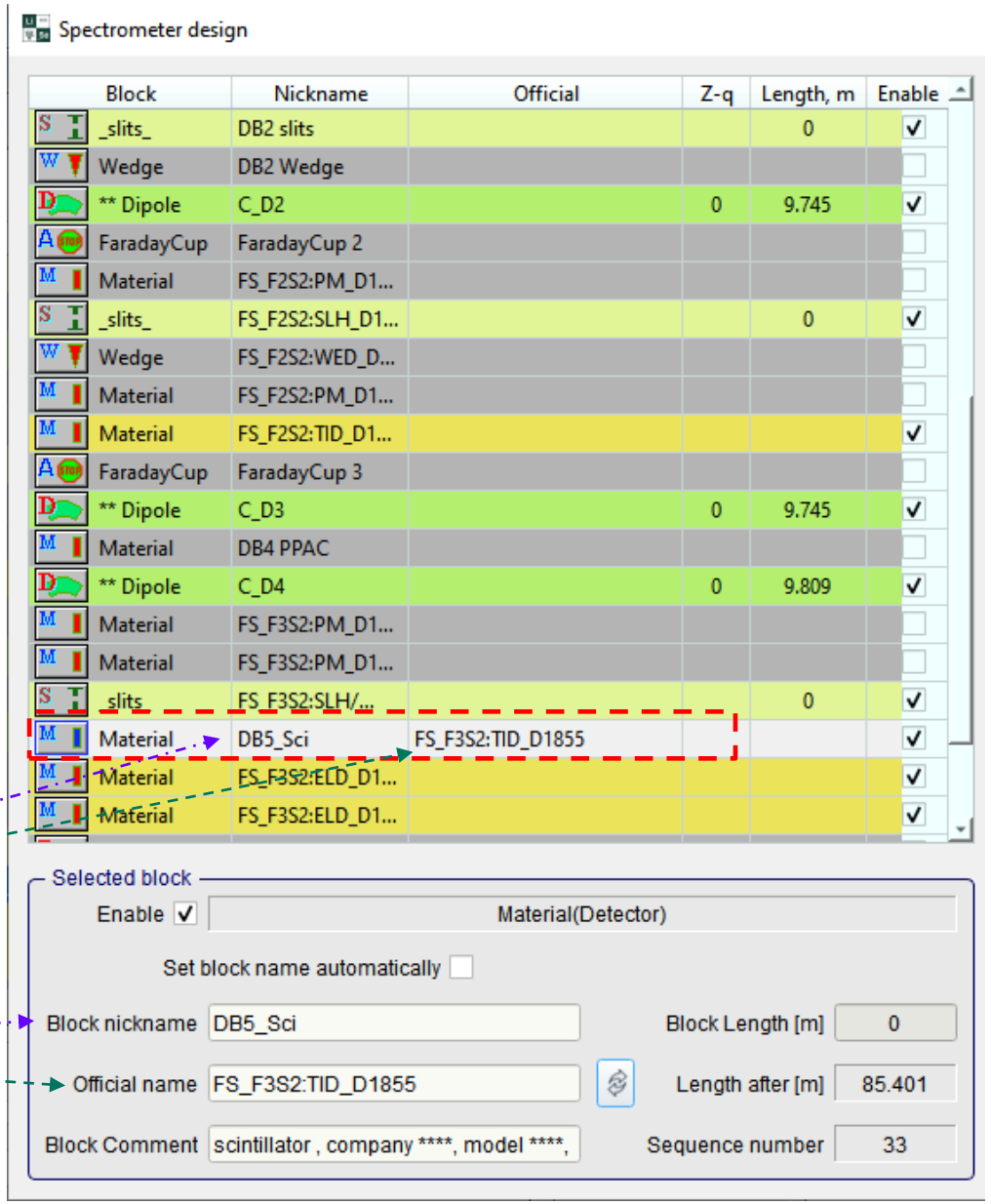
protected:
char* PrivateName;

PrivateName FS_F3S2:TID_D1855

“Spectrometer design” dialog



Button to swap Nickname and Official name



New column “Official name” in the setup dialogs

Spectrometer design

Block	Nickname	Official	Z-q	Length, m	Enable
Wedge	DB2 Wedge				☐
** Dipole	C_D2		0	9.745	☑
FaradayCup	FaradayCup 2				☐
Material	DB3_PPAC1	FS_F2S2:PM_D1658			☐
slits	DB3_slis	FS_F2S2:SLH_D1662		0	☑
Wedge	DB3_wedge	FS_F2S2:WED_D1660			☐
Material	DB3_PPAC2	FS_F2S2:PM_D1663			☐
Material	DB3_Sci	FS_F2S2:TID_D1664			☑
FaradayCup	FaradayCup 3	FaradayCup 3			☐
** Dipole	C_D3		0	9.745	☑
Material	DB4 PPAC				☐
** Dipole	C_D4		0	9.809	☑
Material	DB5_PPAC1	FS_F3S2:PM_D1849			☐
Material	DB5_PPAC2	FS_F3S2:PM_D1853			☐
slits	DB5_slits	FS_F3S2:SLH/V_1854		0	☑
Material	DB5_Sci	FS_F3S2:TID_D1855			☑
Material	DB5_Si_dE	FS_F3S2:ELD_D1857			☑
Material	DB5_Si_TKE	FS_F3S2:ELD_D1858			☑
** Dipole	C_D5		0	0	☐

Selected block

Enable ☑ Material(Detector)

Set block name automatically ☐

Block nickname: DB5_Si_dE — Block Length [m]: 0

Official name: FS_F3S2:ELD_D1857 — Length after [m]: 85.401

Block Comment: — Sequence number: 34

Optic settings (fast editing)

Block	Nick Name	Official Name	Start (m)	Length (m)	B0(kG) *U	Br(Tm)cor *real	DriftM *Angle
drift	shield		0	0.502			standar
Rotate	RAm90		0.502	0			
** Dipole	PS1A		0.502	7.705	+14.0093	* 5.6037	* +30.0
finger	Drift 2		8.207	0			FiNgEr
** Dipole	PS1B		8.207	10.2	-14.0093	* 5.6037	* -30.0
slits	Drift 3		18.407	0			SLITS
** Dipole	PS1C		18.407	13.86	-13.9197	* 5.5679	* -50.0
** Dipole	PS1D		32.267	14.141	+13.9197	* 5.5679	* +50.0
slits	PS_FP_slit		46.408	0			SLITS
Rotate	RA90		46.408	0			
** Dipole	C_D1		46.408	9.694	+12.1676	* 5.5679	* +30.0
slits	DB2 slits		56.102	0			SLITS
** Dipole	C_D2		56.102	9.745	+12.1676	* 5.5679	* +30.0
slits	DB3_slis	FS_F2S2:SLH_D1662	65.847	0			SLITS
** Dipole	C_D3		65.847	9.745	+12.1403	* 5.5554	* +30.0
** Dipole	C_D4		75.592	9.809	+12.1403	* 5.5554	* +30.0
slits	DB5_slits	FS_F3S2:SLH/V_1854	85.401	0			SLITS

Selected block

Drift (multipole,slits)

Block name: ☐ set default name — shield

Block Length [m]: 0.502

Length after this block [m]: 0.502

Block Edit | Multipole Edit | Cuts,Acceptances | Optical Matrix

Angular acceptance (mrad) — Use

Horizontal ± 40 ☑

Vertical ± 40 ☑

Shape: Rectangle ○ Ellipse ◉

Inside Apert — min

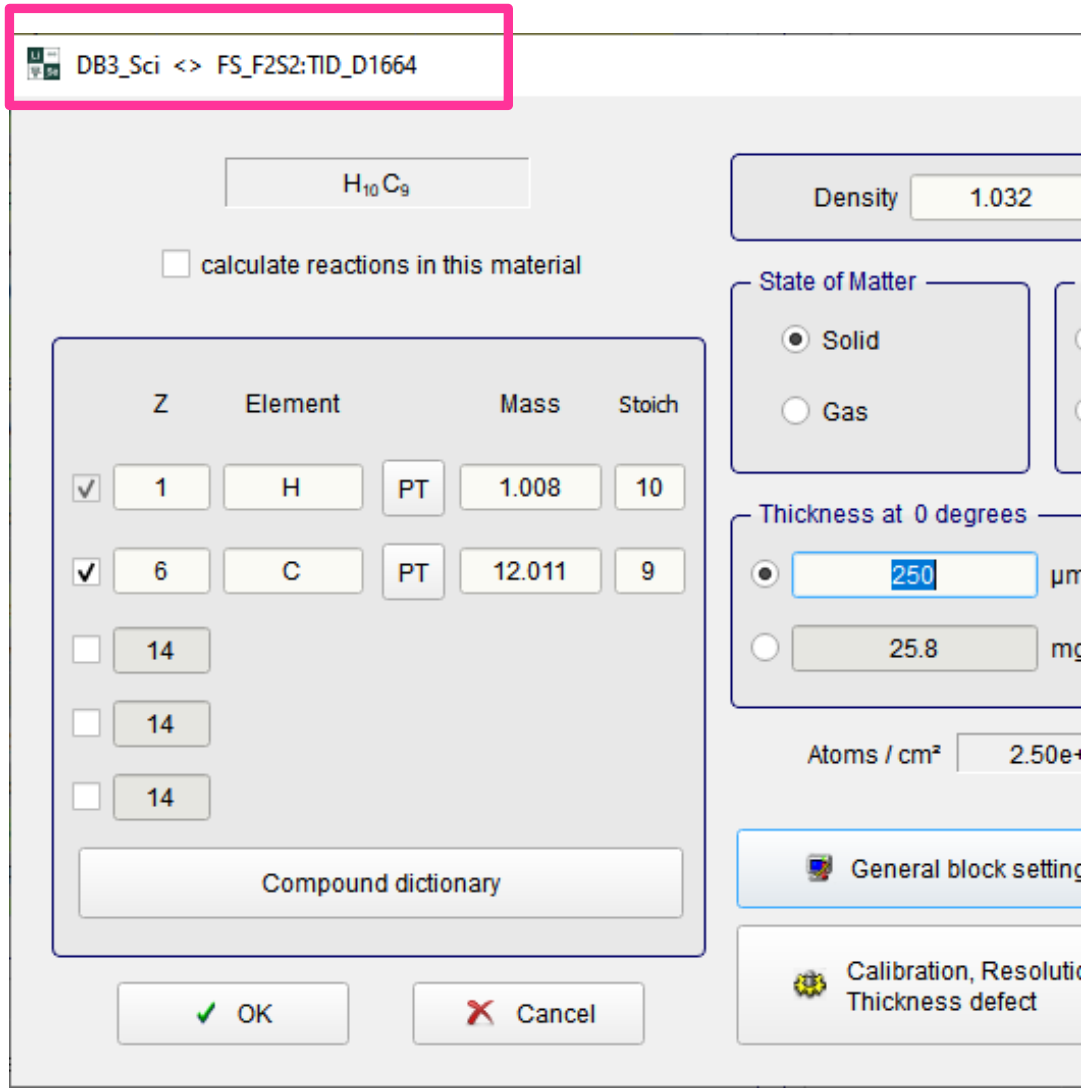
X= -50

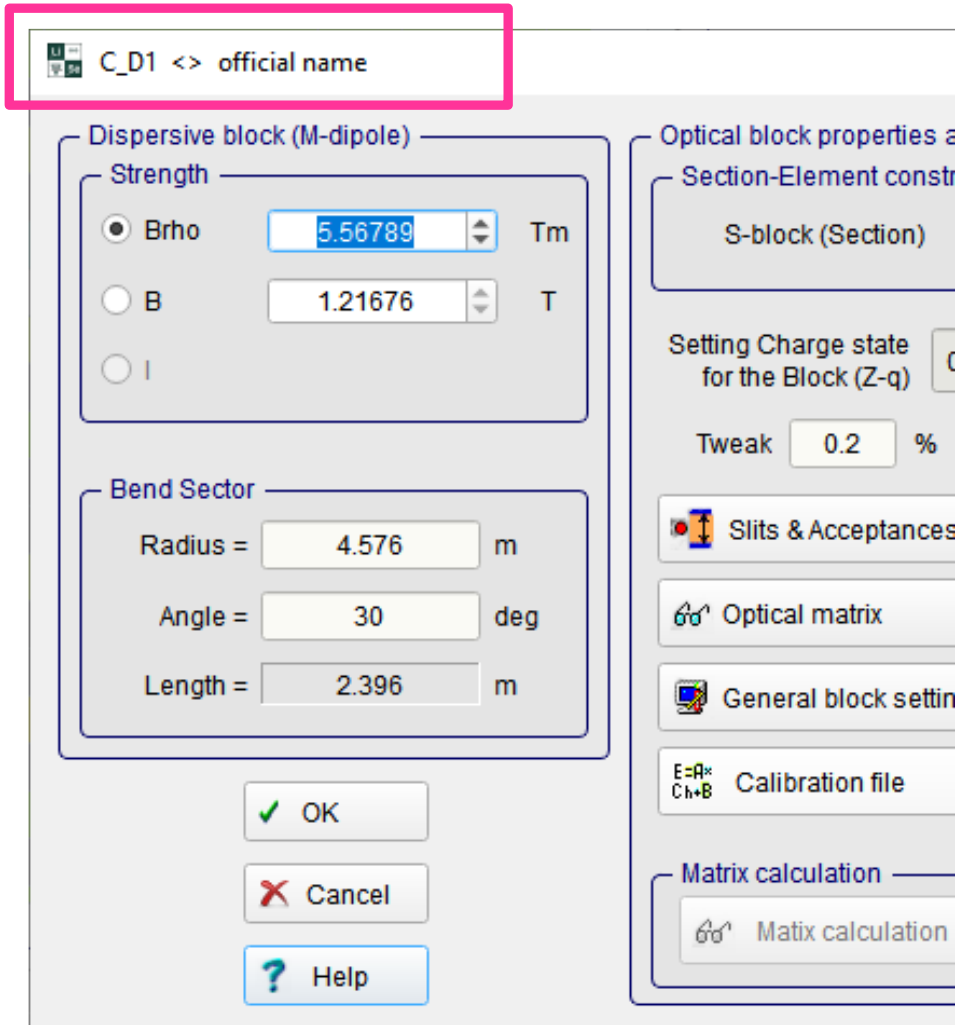
Y= -50

Shape: Rectangle

Block dialog titles

If block official name exists, then both names are plotted in the block edit dialog





Block names in LISE files

If “Official name” or “comment” string size are > 1,
then these stings are stored in a file

C:/temp/t6.lpp

Save As | Print | PrintView | Consolas | 9

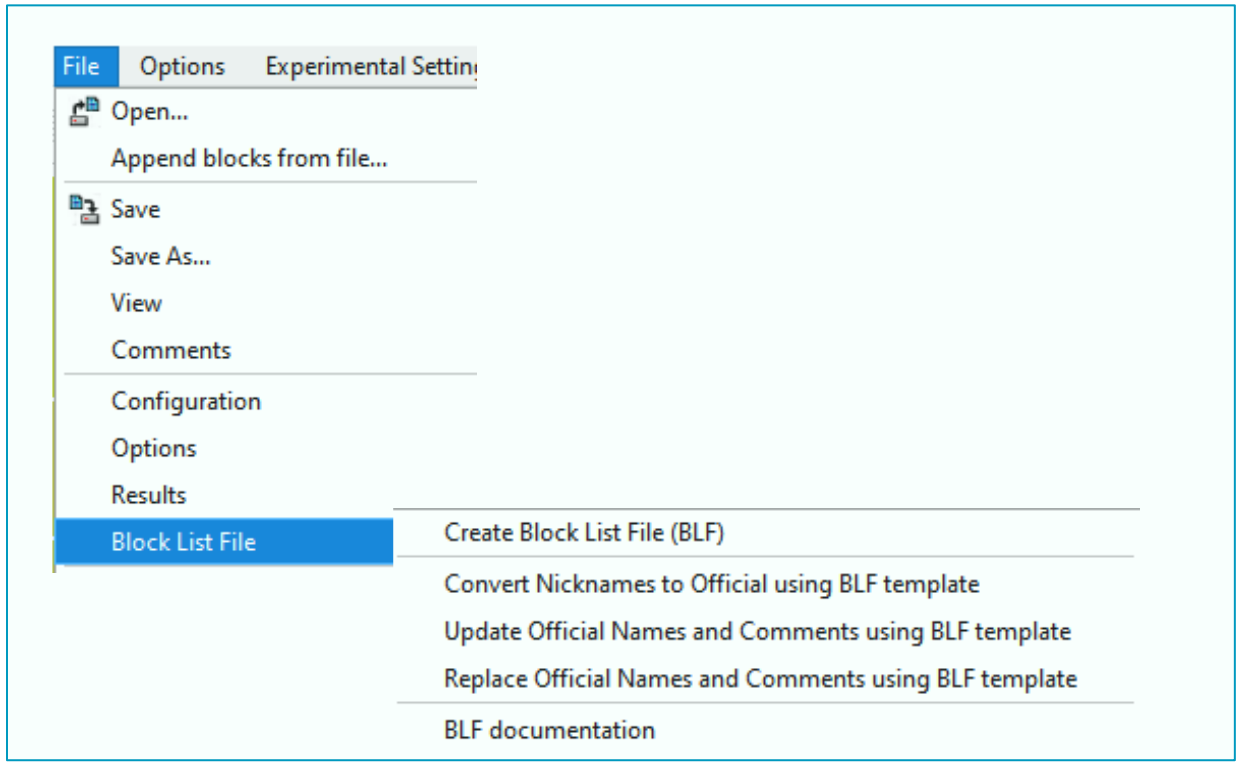
```
{============================ BLOCK S7 - Drift ====================================}

[S7_General]
                    Name = DB5 slits,1                          ; Name of Block, Constant name 1/0
                Official = FS_F3S2:SLH/V_1854
......

{============================ BLOCK M8 - Material ==================================}

[M8_General]
                    Name = DB5_Sci_1                            ; Name of Block, Constant name 1/0
                Official = FS_F3S2:TID_D1855
                 Comment = scintillator, company, model
               Available = 1
                  Length = 0                    m               ; Length block for optical blocks
```

Block List File



Lister - [c:\temp\ARIS.blf]

File Edit Options Encoding Help

```
N,Block,Nickname,Official,use,Length,after,comment
3,drift,shield,,1,0.502,0.502,
4,rotate,RAm90,,1,0,0.502,
5,dipole,PS1A,,1,7.705,8.207,
6,finger,Drift 2,,1,0,8.207,mycommment
7,dipole,PS1B,,1,10.2,18.407,
8,slits,Drift 3,,1,0,18.407,
9,wedge,PS_wdg,,1,0,18.407,
10,dipole,PS1C,,1,13.86,32.267,
11,dipole,PS1D,,1,14.141,46.408,
12,faraday,FaradayCup 1,,0,0,46.408,
13,slits,PS_FP_slit,,1,0,46.408,
14,material,SlitsMaterial,,0,0,46.408,
15,rotate,RA90,,1,0,46.408,
16,dipole,C_D1,,1,9.694,56.102,
17,slits,DB2 slits,,1,0,56.102,
18,wedge,DB2 Wedge,,0,0,56.102,
19,dipole,C_D2,,1,9.745,65.847,
20,faraday,FaradayCup 2,,0,0,65.847,
21,material,DB3_PPAC1,FS_F2S2:PM_D1658,0,0,65.847,
22,slits,DB3_slis,FS_F2S2:SLH_D1662,1,0,65.847,
23,wedge,DB3_wedge,FS_F2S2:WED_D1660,0,0,65.847,
24,material,DB3_PPAC2,FS_F2S2:PM_D1663,0,0,65.847,
25,material,DB3_Sci,FS_F2S2:TID_D1664,1,0,65.847,
26,faraday,FaradayCup 3,,0,0,65.847,
27,dipole,C_D3,,1,9.745,75.592,
28,material,DB4 PPAC,,0,0,75.592,
29,dipole,C_D4,,1,9.809,85.401,
30,material,DB5_PPAC1,FS_F3S2:PM_D1849,0,0,85.401,mycomment
31,material,DB5_PPAC2,FS_F3S2:PM_D1853,0,0,85.401,gggd
32,slits,DB5_slits,FS_F3S2:SLH/V_1854,1,0,85.401,
33,material,DB5_Sci,FS_F3S2:TID_D1855,1,0,85.401,pin diode
34,material,DB5_Si_dE,FS_F3S2:ELD_D1857,1,0,85.401,
35,material,DB5_Si_TKE,FS_F3S2:ELD_D1858,1,0,85.401,
36,dipole,C_D5,,0,0,85.401,
37,material,Exp Timing,,0,0,85.401,
38,material,Exp PIN,,0,0,85.401,
39,material,Exp TKE,,0,0,85.401,
```

- Default extensions : “csv” or “blf”
- Fields separated by comma
- BLF can be edited in Excel with keeping format

Convert, Update, Replace Block Names with BLF

- BLF file is considered as a separator block name database to adapt previous ARIS files to new name policy
- BLF utilities use only 3rd (Nickname), 4th (Official), and last (Comment) columns
- Pay attention: BLF utilities do not check names for doubling!
- Blocks Order and number of blocks are not important, so blocks from different configuration can be merged to one BLF file to be used as a separator name database.
- The initial file ARIS.blf is located in the /files/examples/FRIB/ directory, and is distributed with the LISE installation package.
- It's suggested secondary beam group leader responsibility for updating the ARIS.blf file.
- **CONVERT**: a block nickname of current file is searched in the "**official name**" column of a BLF.
  In case of a positive result, this block is getting nickname, official name and comment lines from a BLF.
- **UPDATE**: a block nickname of current file is searched in the "nick name" column of a BLF.
  In case of a positive result, this block official name and comment lines are updated with the BLF corresponding lines if these lines of this block are empty.
- **Replace**: a block nickname of current file is searched in the "nick name" column of a BLF.
  In case of a positive result, this block official name and comment lines are replaced with the BLF corresponding lines.