



University
of Glasgow

KSpect user guide

For P3/P5 Nuclear Physics Labs

Updated 24th September 2025



Recording spectra

Data acquisition GUI, settings, etc...

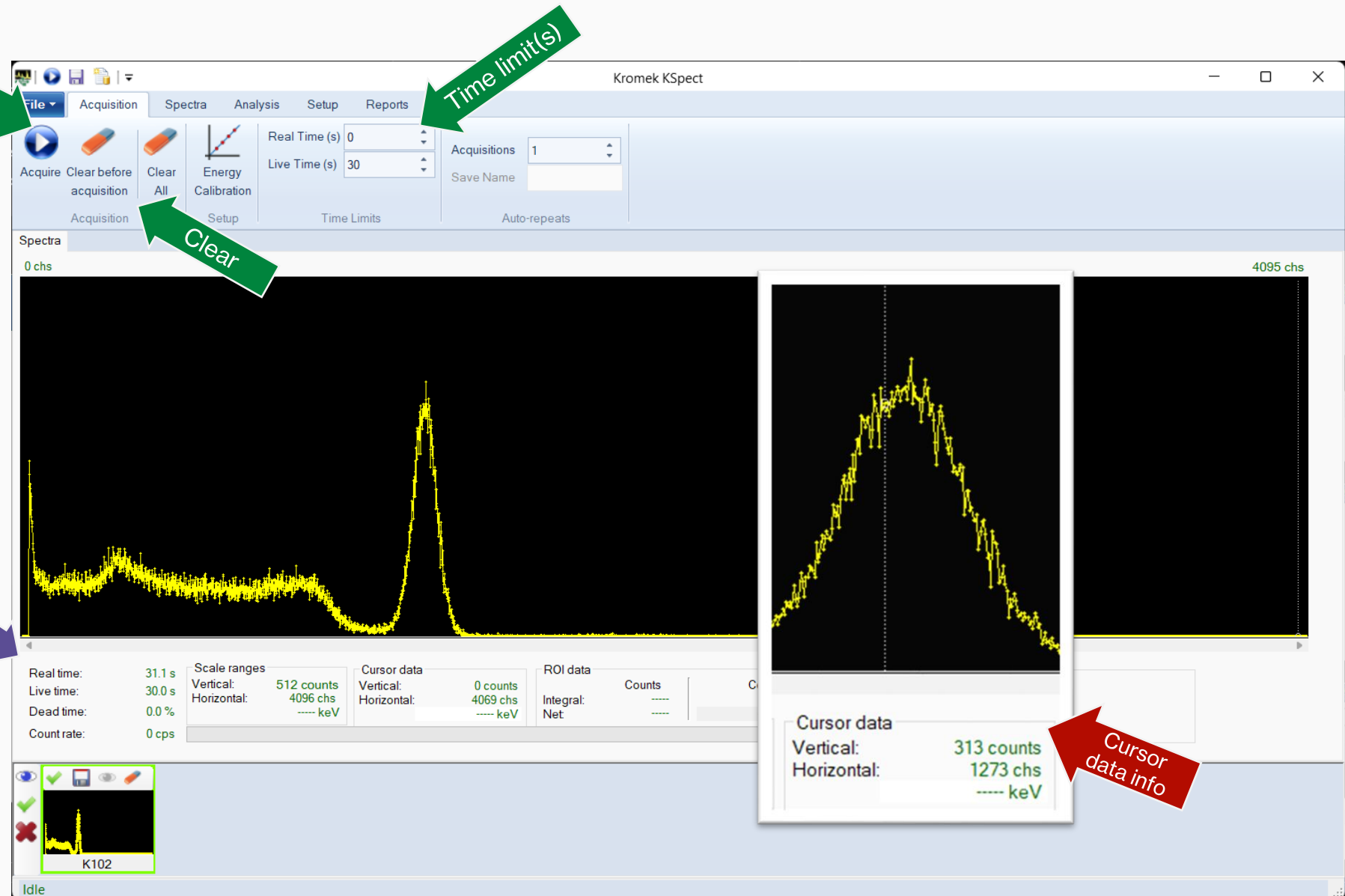
The **Acquisition** tab is where most we control the data acquisition:

- Start / stop runs,
- Clear spectra,
- Set time limit(s).

In the **lower GUI** you can monitor factors such as:

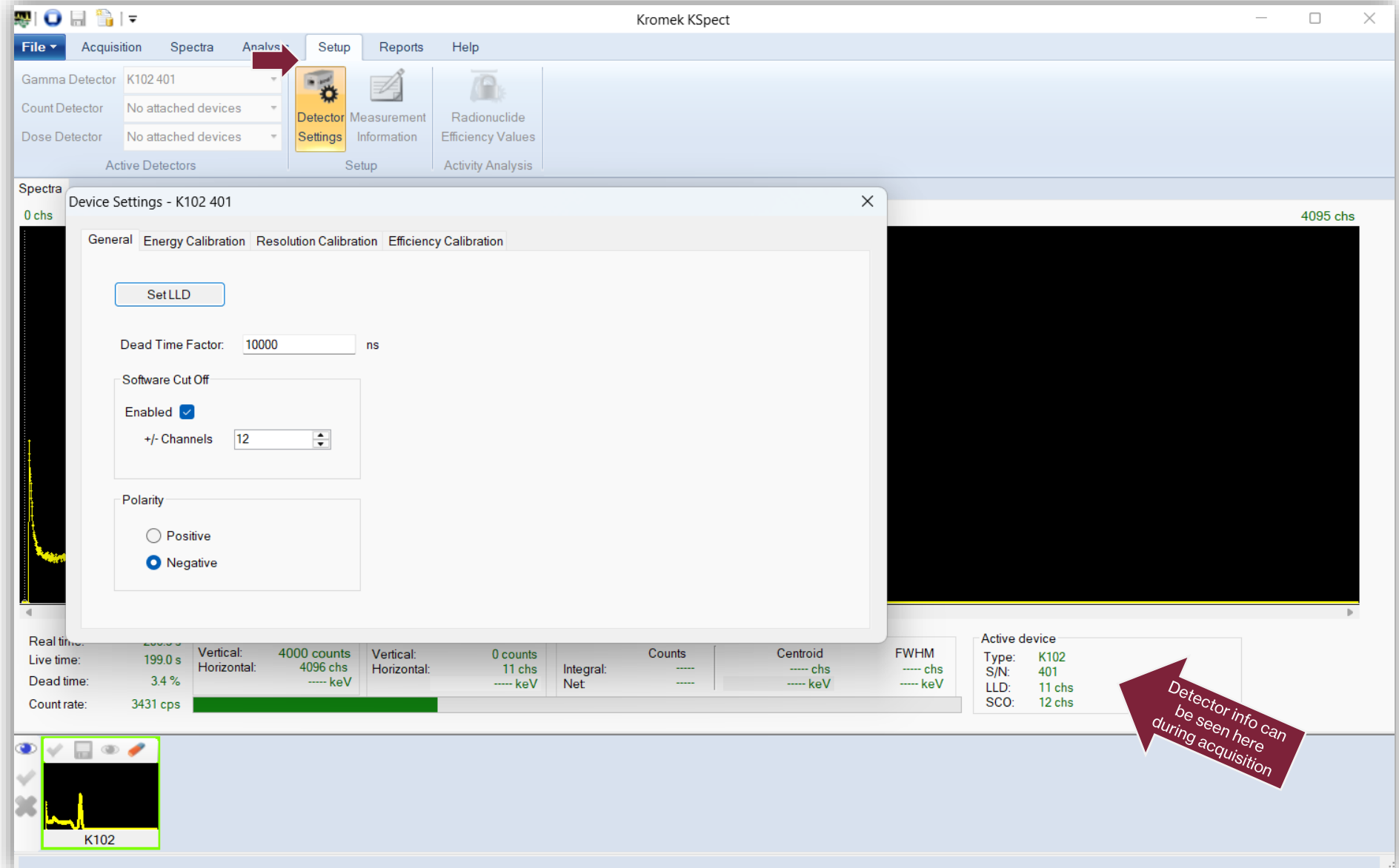
- Deadtime %,
- Count rate,
- Cursor data

The **cursor data** info is particularly useful for sense-checking your runs.



In **setup**, some important detector settings such as:

- the low level discriminator (LLD),
- software cut off (SCO),
- and pulse polarity .



The screenshot shows the Kromek KSpect software interface. The main window has a menu bar with File, Acquisition, Spectra, Analysis, Setup, Reports, and Help. The 'Setup' menu is highlighted with a red arrow. Below the menu bar, there are sections for Active Detectors, Setup, and Activity Analysis. The 'Detector Settings' dialog box is open, showing the 'General' tab for device K102 401. The dialog box contains the following settings:

- Set LLD button
- Dead Time Factor: 10000 ns
- Software Cut Off: Enabled ☒
- +/- Channels: 12
- Polarity: ☒ Negative

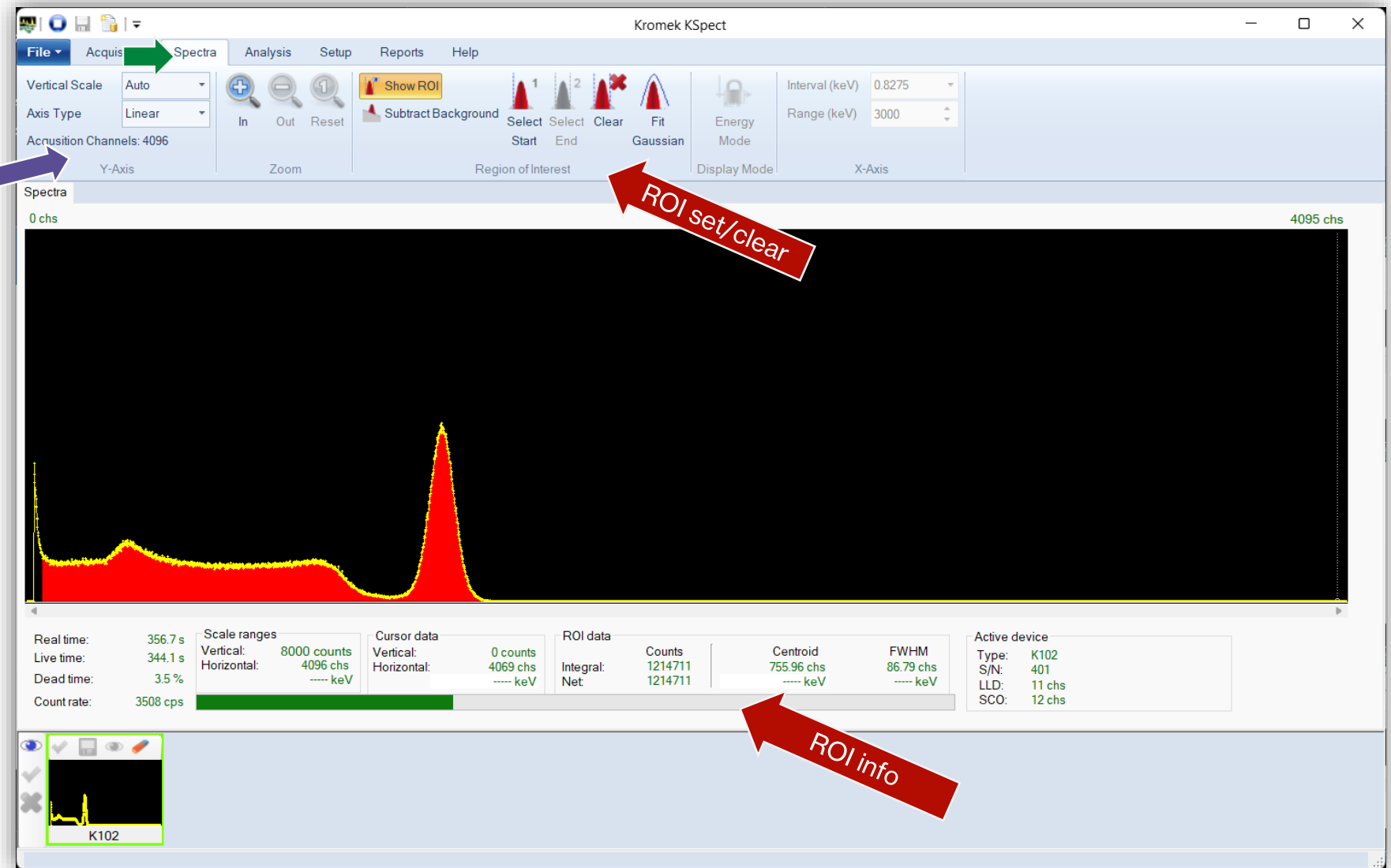
The bottom of the main window displays acquisition statistics and a small spectrum plot. A red callout box points to the 'Active device' information in the bottom right corner:

Active device
Type: K102
S/N: 401
LLD: 11 chs
SCO: 12 chs

Detector info can be seen here during acquisition

In **spectra**, some graphical features are available such as:

- Setting axis scales
- Selecting regions of interest (ROI)



Saving data

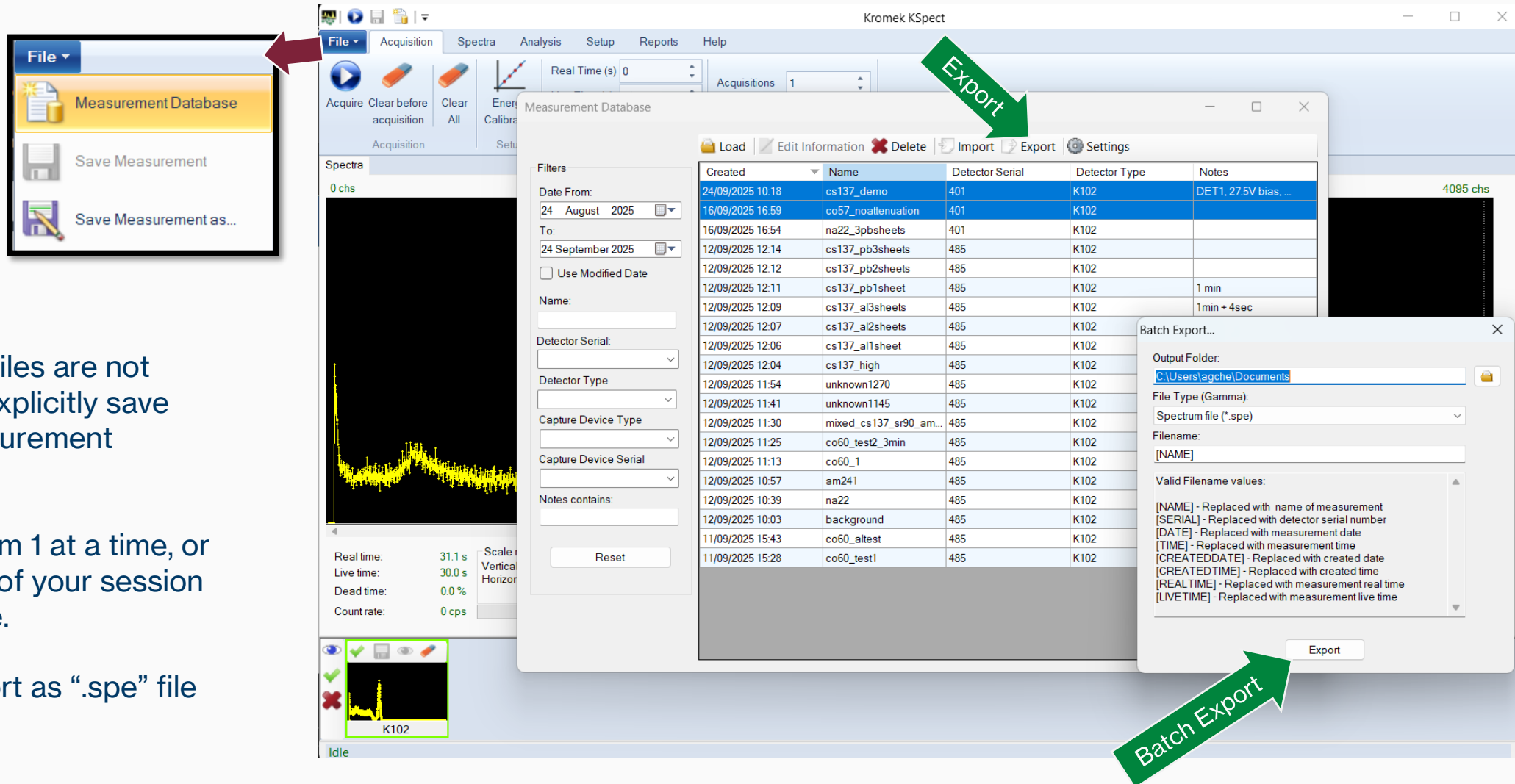
Measurement database and exporting.

In **File**, you can save measurements and access the measurement database.

Importantly, these files are not exported until you explicitly save them from the measurement database.

You can **export** them 1 at a time, or by batch at the end of your session by selecting multiple.

Make sure you export as “.spe” file for analysis.



The screenshot shows the Kromek KSpect software interface. The 'File' menu is open, highlighting the 'Measurement Database' option. The 'Measurement Database' window is displayed, showing a table of measurements. A green arrow labeled 'Export' points to the 'Export' button in the 'Measurement Database' window. The 'Batch Export...' dialog is open, showing the 'Output Folder' set to 'C:\Users\agche\Documents' and the 'File Type' set to 'Spectrum file (*.spe)'. A green arrow labeled 'Batch Export' points to the 'Export' button in the 'Batch Export...' dialog.

Created	Name	Detector Serial	Detector Type	Notes
24/09/2025 10:18	cs137_demo	401	K102	DET1. 27.5V bias, ...
16/09/2025 16:59	co57_noattenuation	401	K102	
16/09/2025 16:54	na22_3pbsheets	401	K102	
12/09/2025 12:14	cs137_pb3sheets	485	K102	
12/09/2025 12:12	cs137_pb2sheets	485	K102	
12/09/2025 12:11	cs137_pb1sheet	485	K102	1 min
12/09/2025 12:09	cs137_al3sheets	485	K102	1min + 4sec
12/09/2025 12:07	cs137_al2sheets	485	K102	
12/09/2025 12:06	cs137_al1sheet	485	K102	
12/09/2025 12:04	cs137_high	485	K102	
12/09/2025 11:54	unknown1270	485	K102	
12/09/2025 11:41	unknown1145	485	K102	
12/09/2025 11:30	mixed_cs137_sr90_am...	485	K102	
12/09/2025 11:25	co60_test2_3min	485	K102	
12/09/2025 11:13	co60_1	485	K102	
12/09/2025 10:57	am241	485	K102	
12/09/2025 10:39	na22	485	K102	
12/09/2025 10:03	background	485	K102	
11/09/2025 15:43	co60_altest	485	K102	
11/09/2025 15:28	co60_test1	485	K102	

Batch Export...

Output Folder: C:\Users\agche\Documents

File Type (Gamma): Spectrum file (*.spe)

Filename: [NAME]

Valid Filename values:

- [NAME] - Replaced with name of measurement
- [SERIAL] - Replaced with detector serial number
- [DATE] - Replaced with measurement date
- [TIME] - Replaced with measurement time
- [CREATEDDATE] - Replaced with created date
- [CREATEDTIME] - Replaced with created time
- [REALTIME] - Replaced with measurement real time
- [LIVETIME] - Replaced with measurement live time

Export

Troubleshooting

Work in progress... ask a demonstrator.