
# SpecTk 1.9.X Documentation

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# Update Overview

- Bug fixes and improvements:
  - Memory Leak
  - Refresh fixed
  - Marker scaling
  - other small changes
- Analyze Tool
- Math tab
- Statistics locations option

# Memory Leak Fix

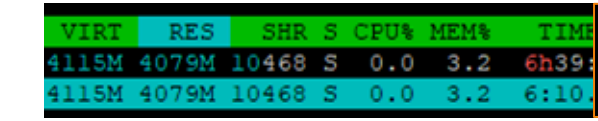
## Problem

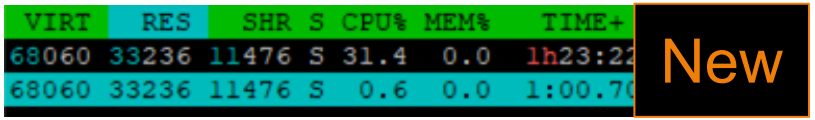
- Overtime SpecTk begins to become unstable
- One reason for this was a memory leak that was discovered

## Cause and Solution

- When obtaining counts inside ROIs SpecTk wouldn't release the vector memory
- Now release the vector memory and recompiled SpecTk

## This should lead to a more stable SpecTk




The original after 2 weeks grew to ~4GB of memory. The updated version stayed at a constant ~33KB of memory after 46 hours.

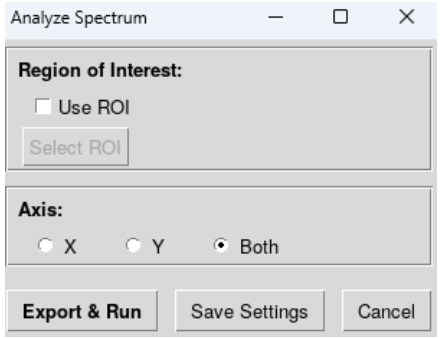
# Analyze Tool

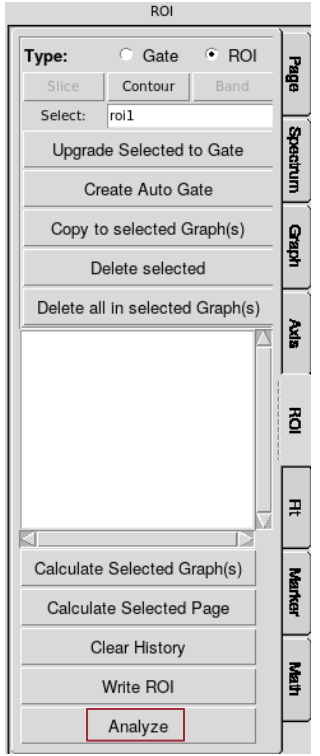
## How it works

- Select a 2D spectra (It doesn't work with 1D)
- You can choose which axis to perform it on, and whether or not to use data only inside and ROI
- Settings will be saved after each run or if save is pressed
- Left click Analyze pulls up the menu
- Right click Analyze uses the saved settings (No pop-up)

## What it does

- Projects each channels data onto the x or y axis, and calculates the avg, median, mode, and asymmetric gaussian center for them.
- Results go into analyzeResults folder as csv files
- Used for DSSD detector calibration

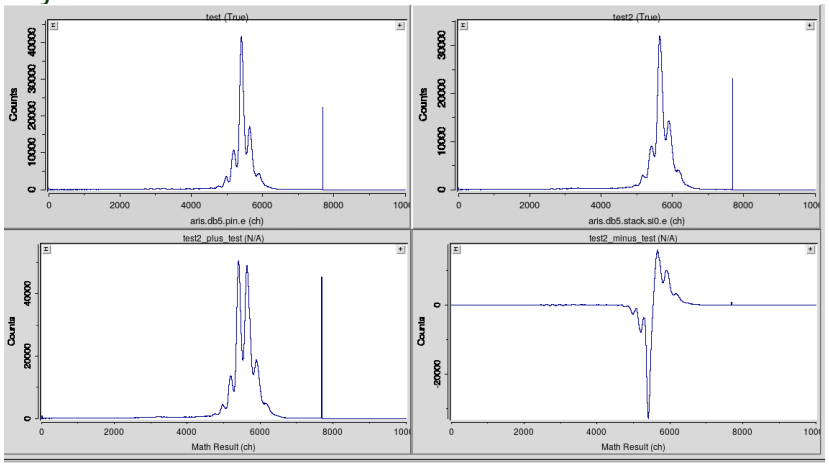


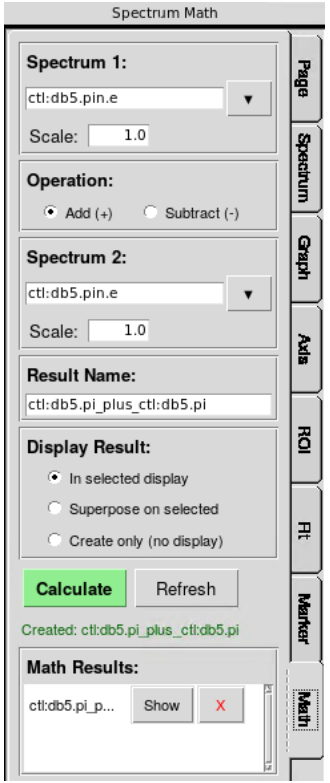



# Math Tab

## How it works

- Choose 1D spectra and the operations you wish to perform on them with the same bin width.
- Either place them in a display, superpose them, or save it in results
- You can delete saved spectra or display them from the results window at the bottom

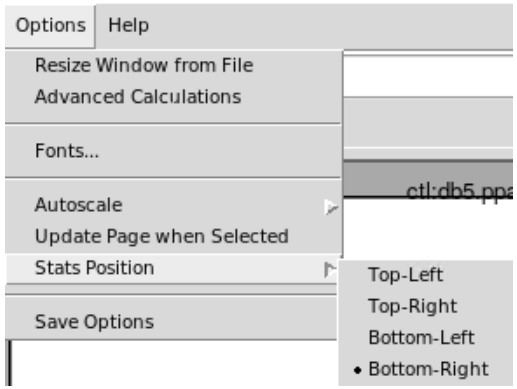


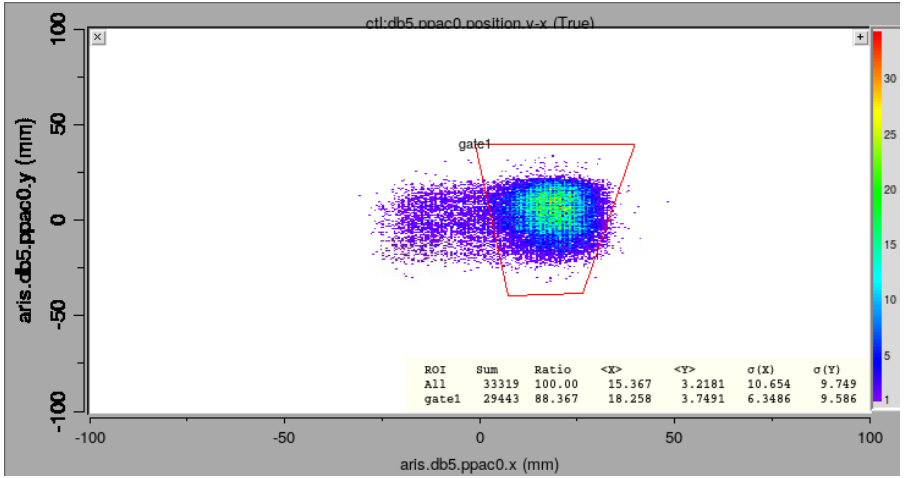



# Statistics Location Option

## How it works

- Under options there is the Stats Position drop down
- Once selected refresh statistics windows and they will appear in the desired location



# Hide Gate Option

## How it works

- You can select the H in the top left of plots to hide for individual plots, or the hide/show gates button to hit for all plots.
- Gates Hidden will be written next to the title and the H will be red if gates are hidden