

Name	Value	Min	Max
--	-------	-----	-----

>>

I

Please use the navigation buttons and not the page up/page down or arrow keys to navigate through the tutorials.

This is the 'Next' button. It takes you to the next frame or stop point.



This is the 'Previous' button. It takes you to the previous frame or stop point.



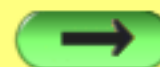
This is the 'Go to frame' button. It takes you to a specified frame.



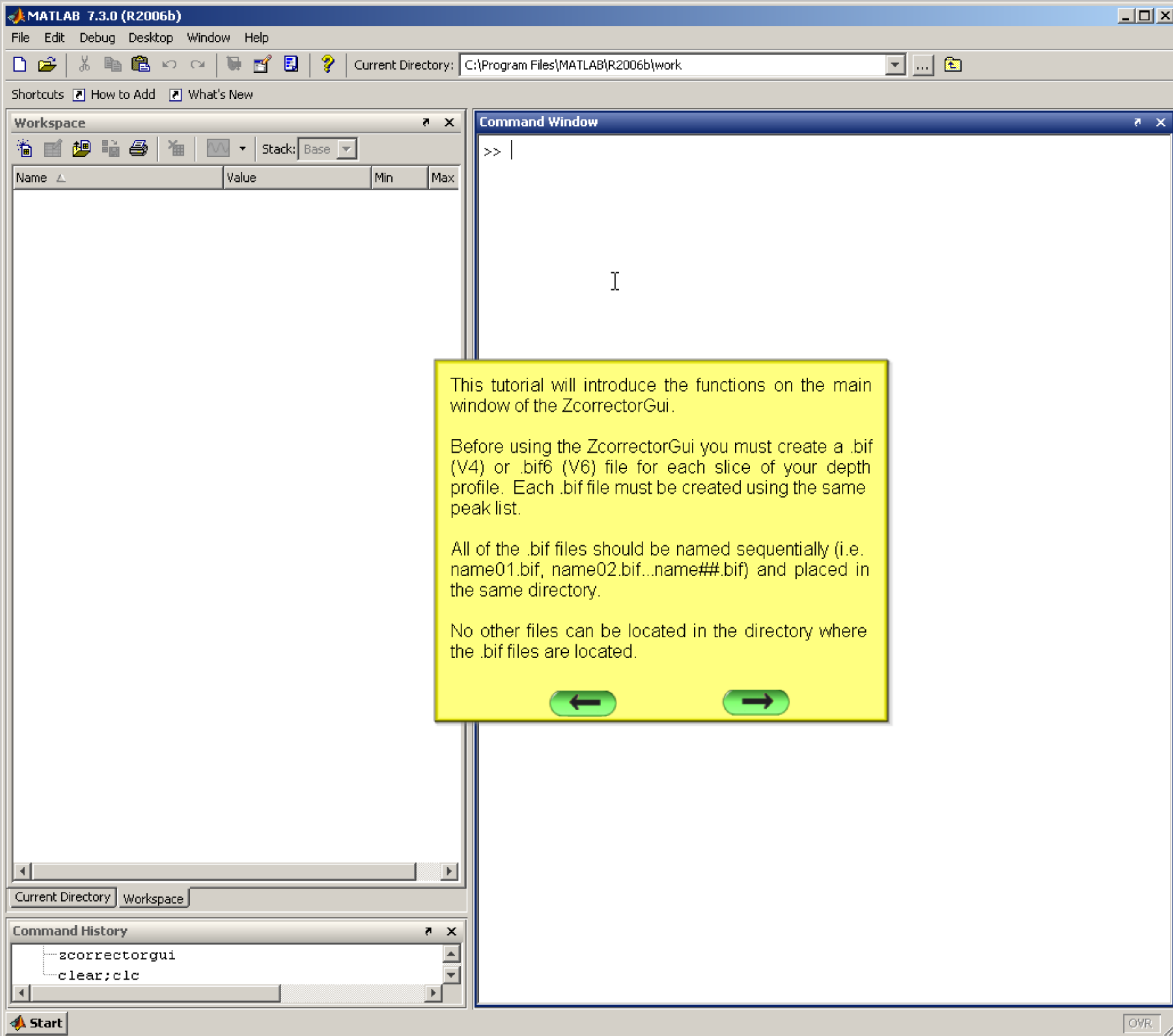
This is the 'Go to URL' button. It takes you to a website link.



Press the 'Next' button below to start this tutorial.



```
...zcorrectorgui
...clear;clc
```



Name ▲	Value	Min	Max
--------	-------	-----	-----

[illegible]

Command Window

```
>> zcorrectorgui
```

To start the gui type 'zcorrectorgui' at the matlab prompt.

NOTE: You must restart the gui each time you want to work with a new data set.



I

Import Data From Directory

Import

Loaded Data

Number of image layers: None

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

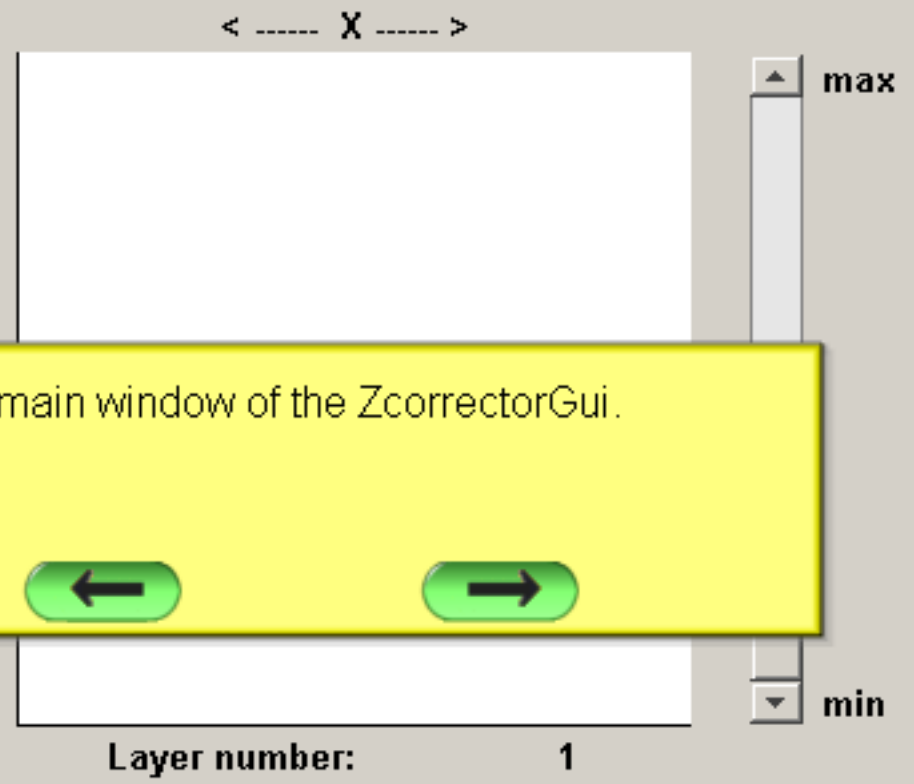
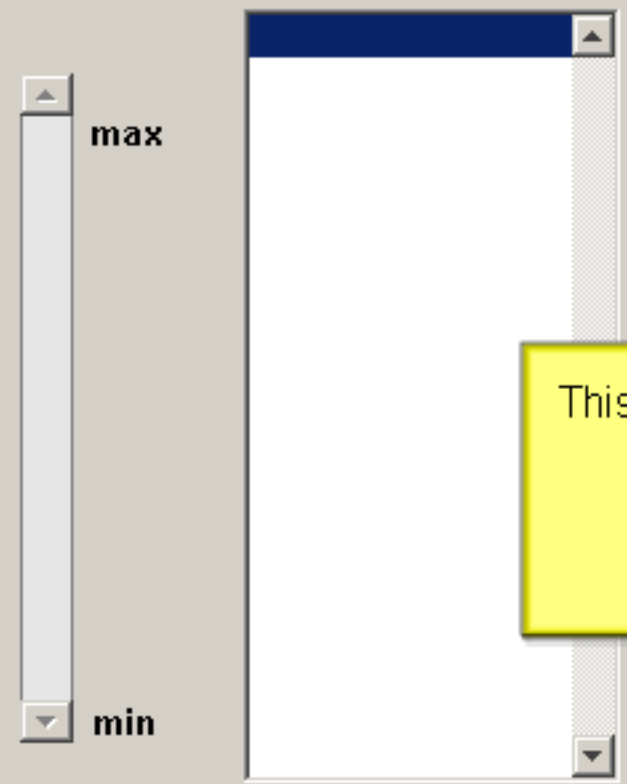
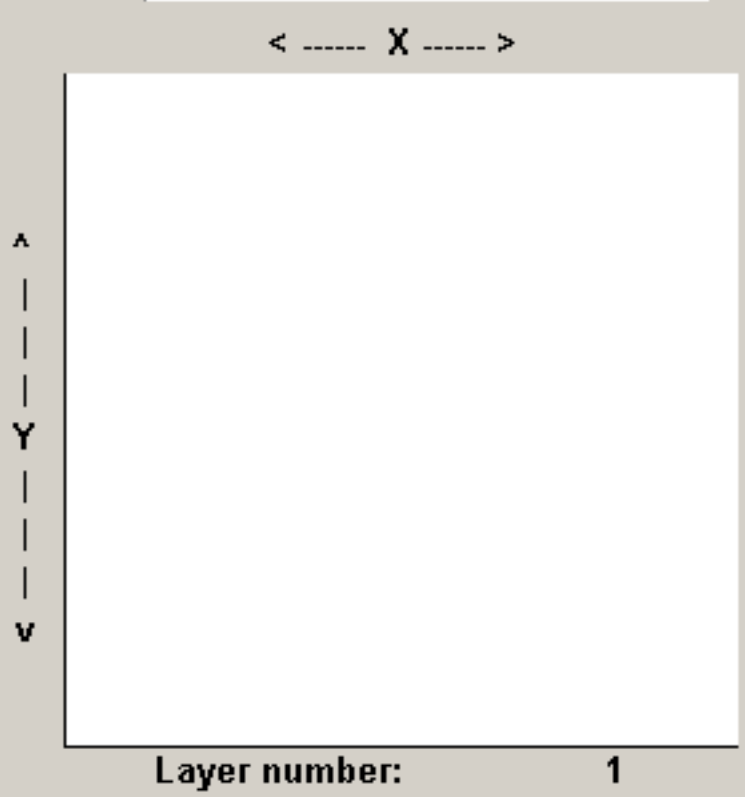
Data Being Displayed
None

Initialize Corrected Data

Overlay Tools

3D Tools

Z corrected image XY



If you want to save the movie frames check this box before creating the movie.

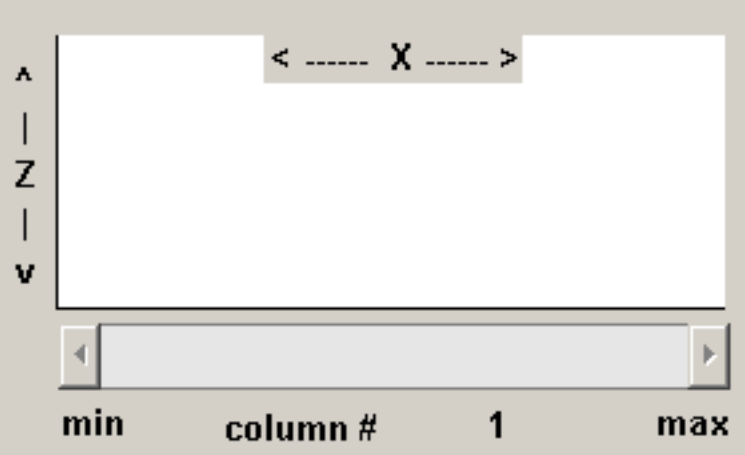
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

This is the main window of the ZcorrectorGui.

← →

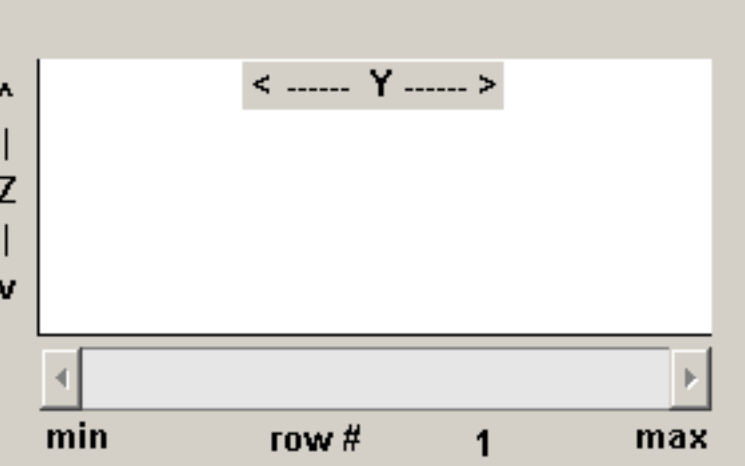


Thresholded total counts XZ

Z line XZ

Z corrected image XZ

Save Corr XZ



Thresholded total counts YZ

Z line YZ

Z corrected image YZ

Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: None

Down binning the data

To load some data press the 'Import' button.

Adjust Total Counts Threshold Value

☐ Work with Uncorrected Data

Initialize Corrected Data

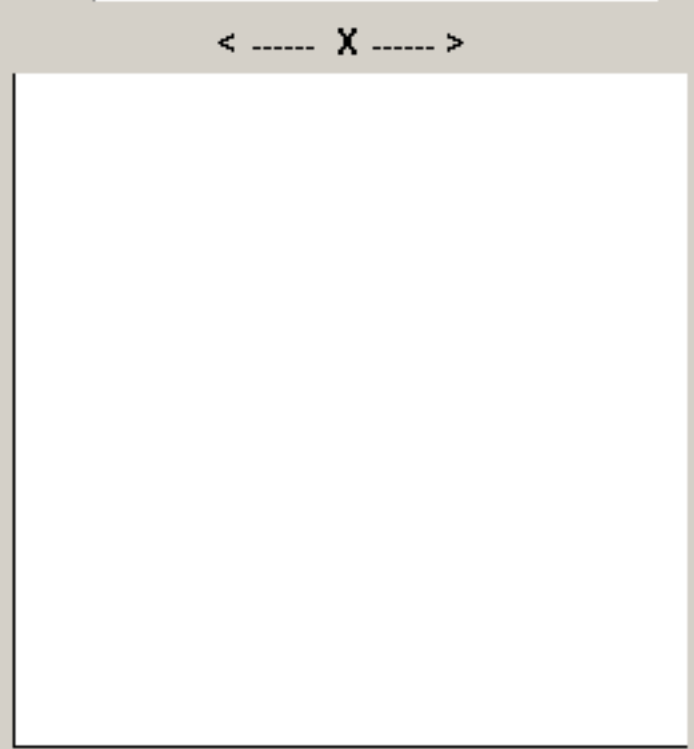
Close

Overlay Tools

3D Tools

Data Being Displayed
None

Peak List



Z corrected image XY
< ----- X ----- >



Layer number: 1

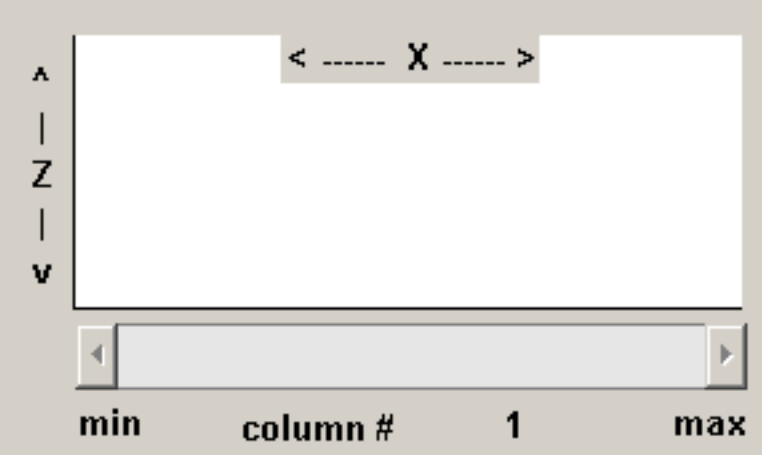


☐ If you want to save the movie frames check this box before creating the movie.

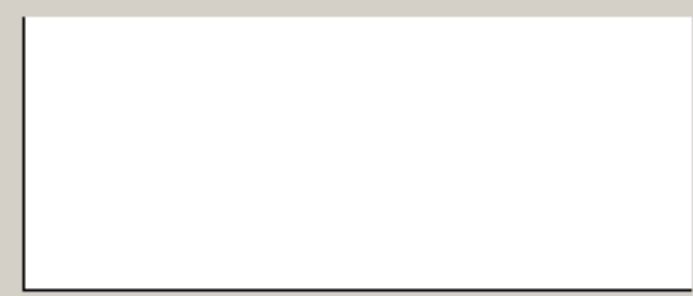
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

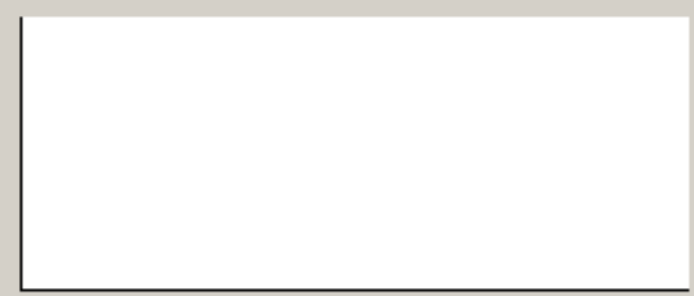
Create YZ Corr Slice Movie



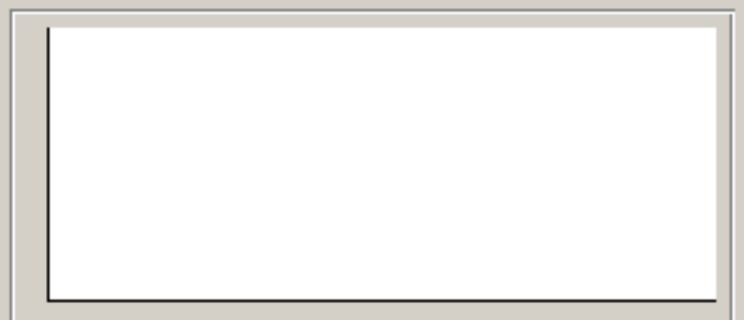
Thresholded total counts XZ



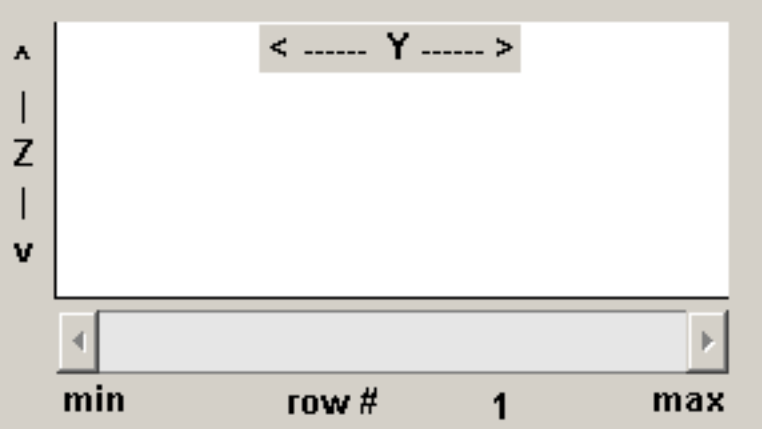
Z line XZ



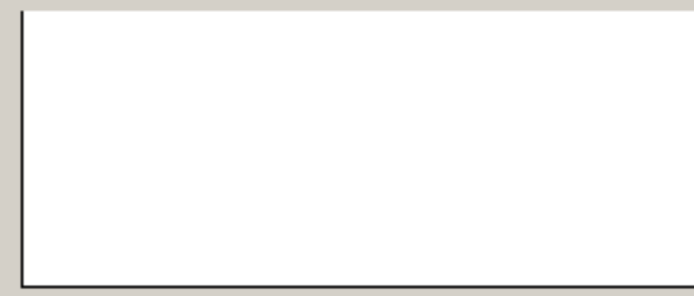
Z corrected image XZ



Save Corr XZ



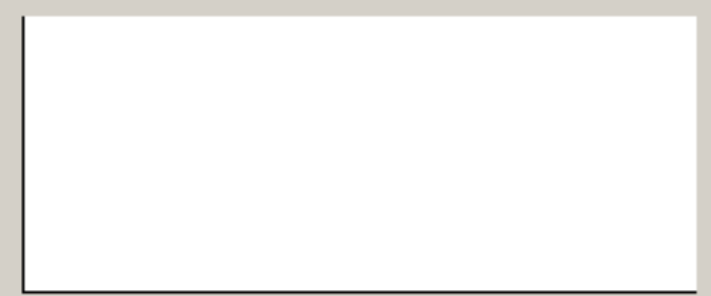
Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: None

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

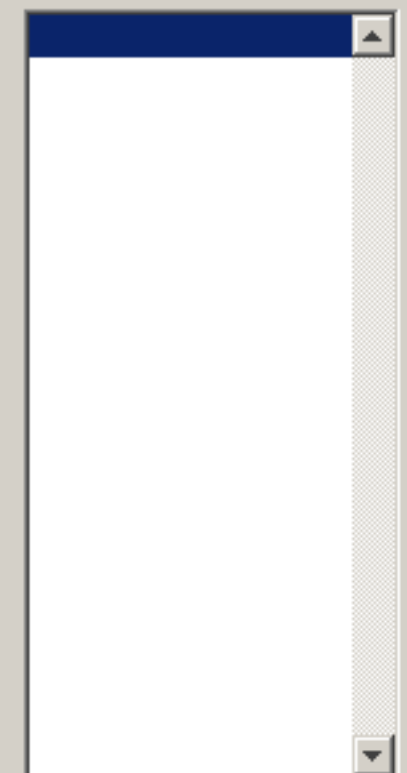
3D Tools

Data Being Displayed
None

Peak List

Initialize Corrected Data

Z corrected image XY



If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

Browse For Folder

Choose a directory to load the data from

- Desktop
- + My Documents
- My Computer
- + Local Disk (C:)
- + DVD-RAM Drive (D:)
- + home on 'NB File Server (fs.nb.uw.edu)
- + Shared Documents
- + graham's Documents
- + My Network Places
- asemblontutorials
- + New Folderg1
- + temp

Browse to the folder that contains the files you want to load.

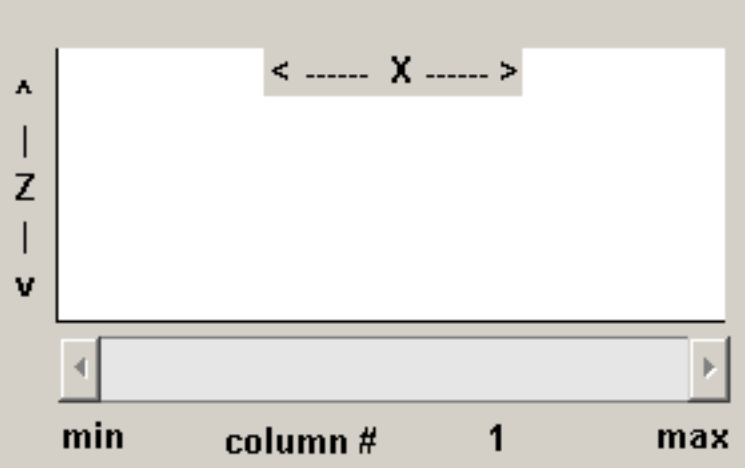
NOTES:

- Remember that only the .bif or .bif6 files can be in this folder.
- The files must be named sequentially
- You cannot mix .bif and .bif6 files.

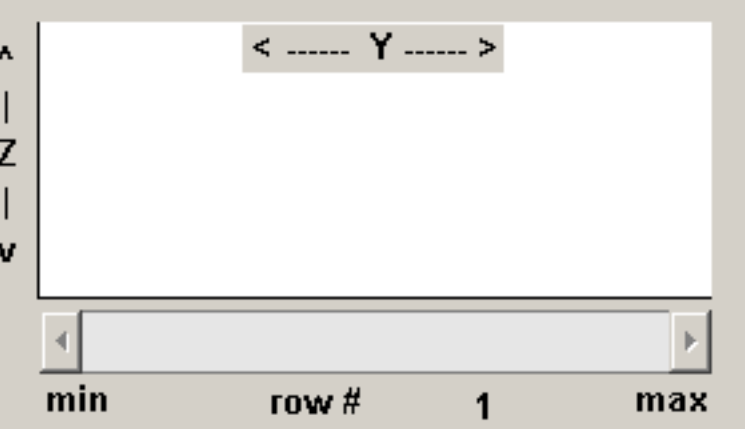
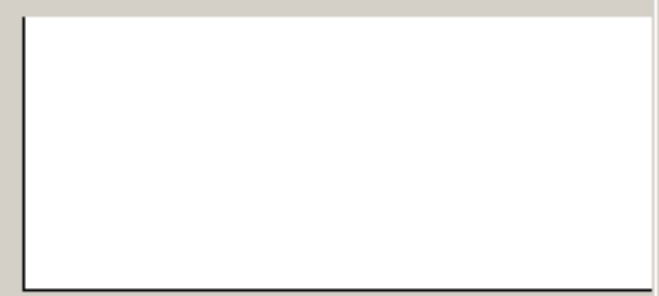
Make New Folder

OK

Cancel



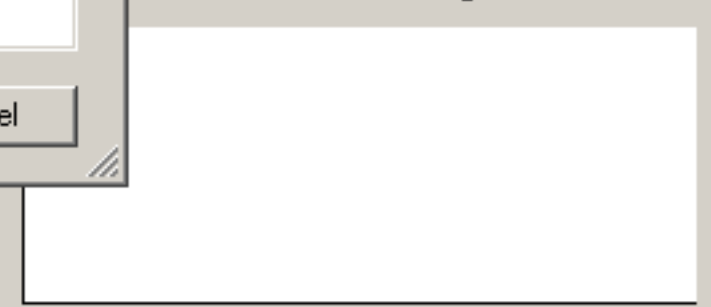
Thresholded total counts XZ



Thresholded total counts YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: None

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

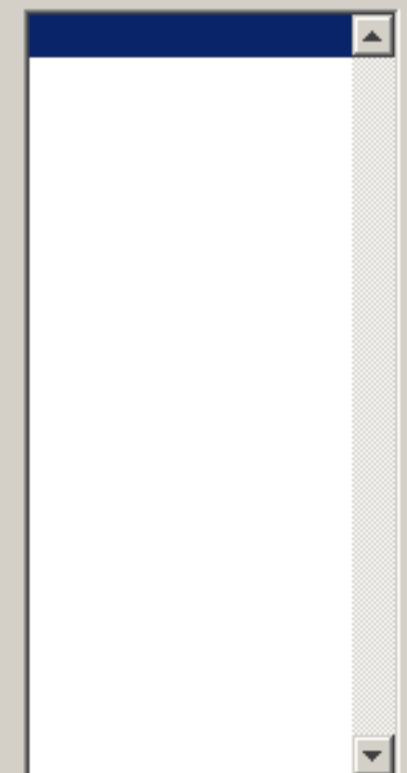
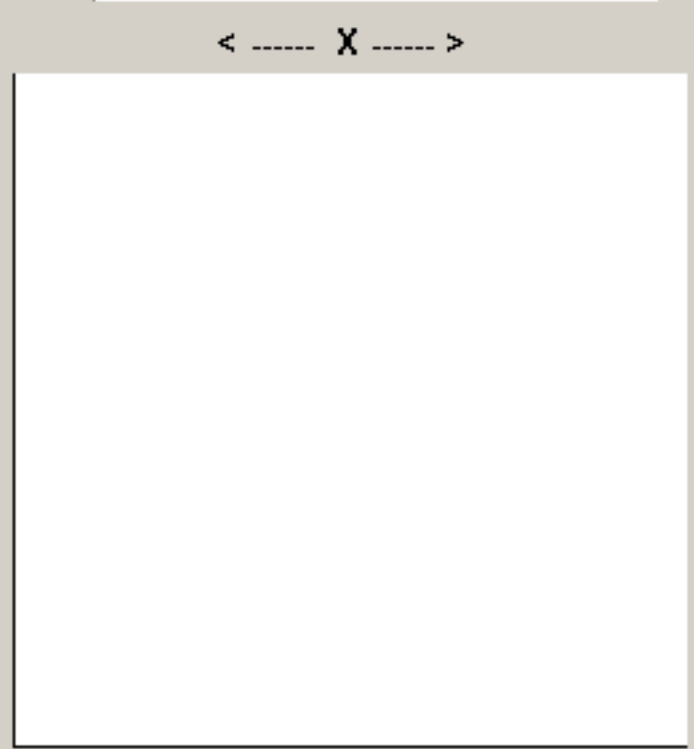
Data Being Displayed

None

Peak List

Initialize Corrected Data

Z corrected image XY



If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

Browse For Folder

Choose a directory to load the data from

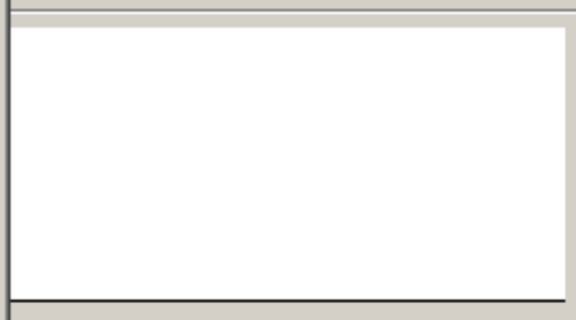
- Local Disk (C:)
- ATI
- bif
- bif2
- bif3
- bif6
- BioBlenderv0.5.1
- blender-2.49b
- blender-2.56a
- cabs
- dell
- Documents and Settings
- eaf4236bcb169392585085
- foo
- fortutorial
- frames

Make New Folder

OK

Save Corr XZ

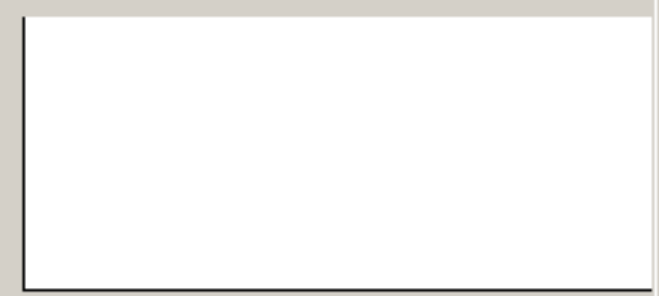
Z corrected image XZ



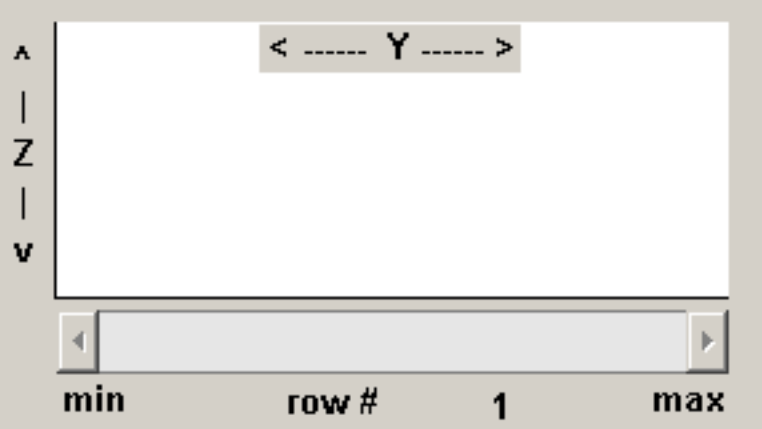
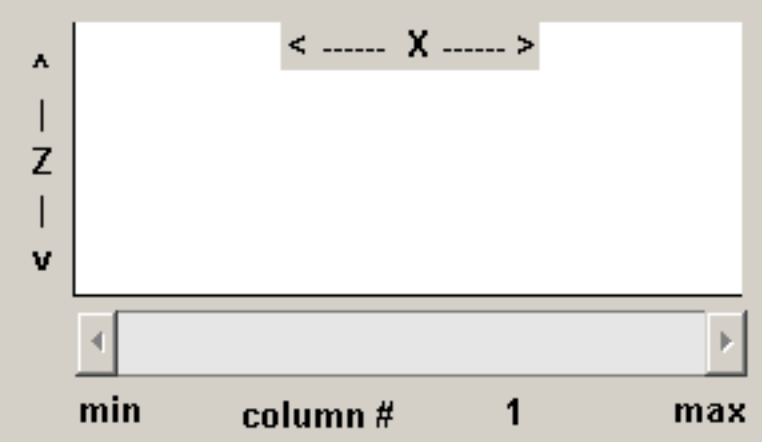
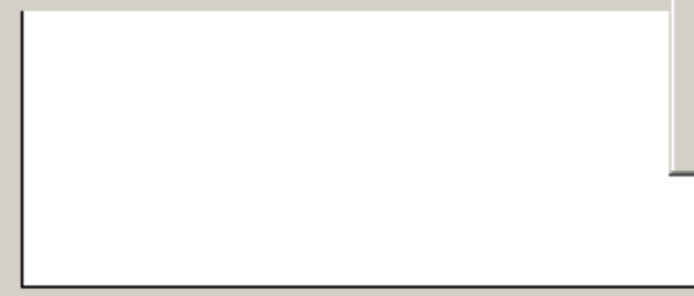
Z corrected image YZ

YZ

Thresholded total counts XZ



Thresholded total counts YZ



Once you have selected the folder where the files are located, press the 'OK' button.

Import Data From Directory

Import

Loaded Data

Number of image layers: None

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

☐ Work with Uncorrected Data

Overlay Tools

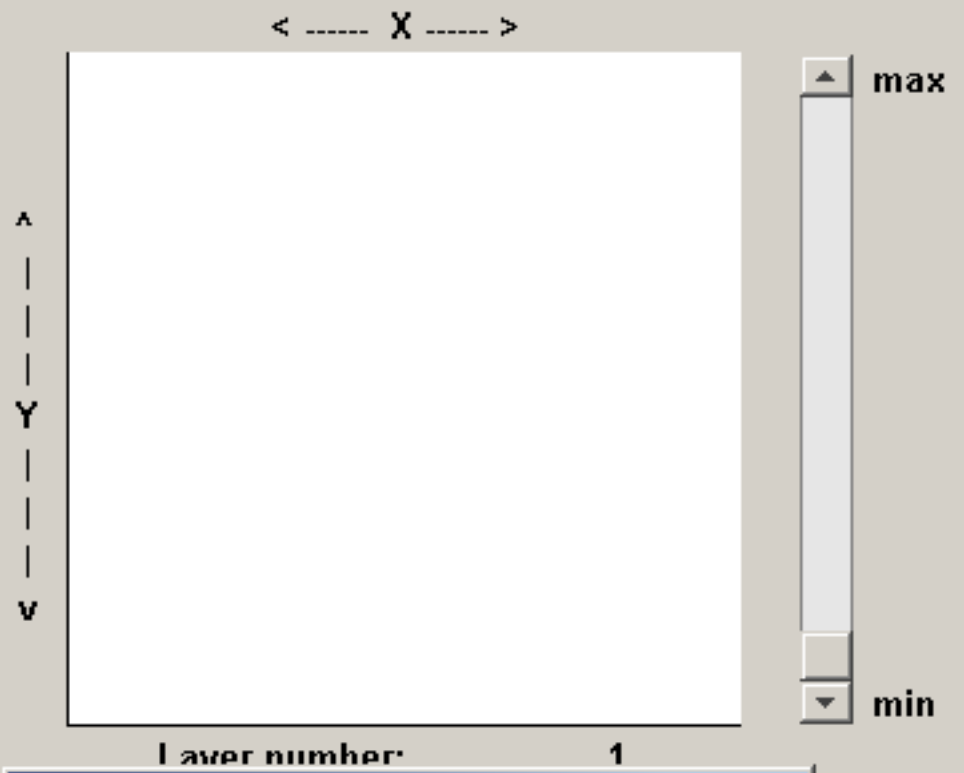
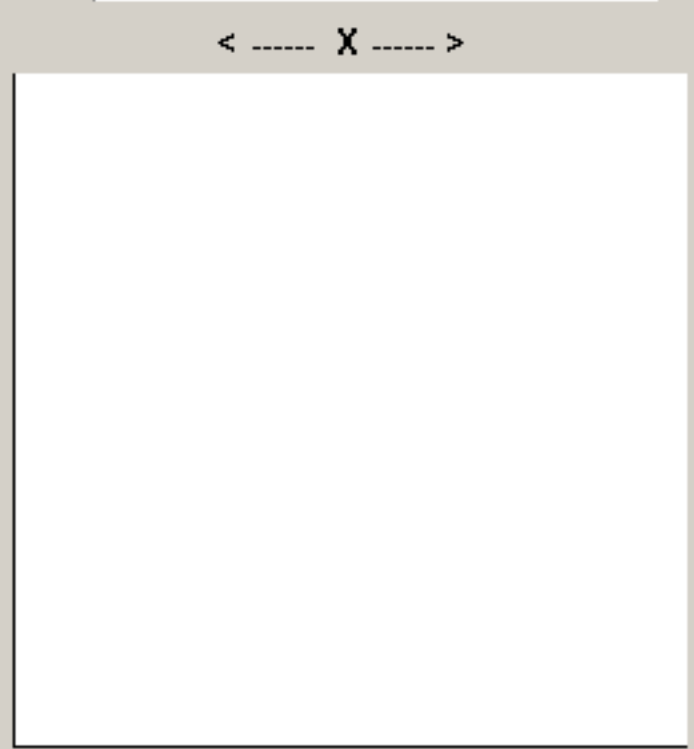
3D Tools

Data Being Displayed
None

Peak List

Initialize Corrected Data

Z corrected image XY

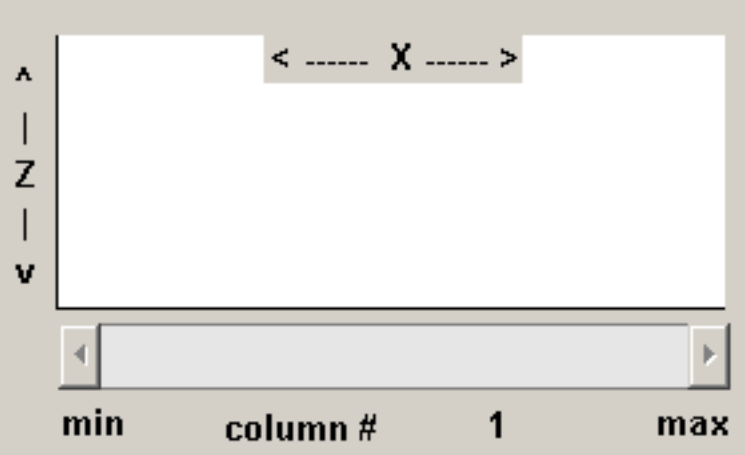


☐ If you want to save the movie frames check this box before creating the movie.

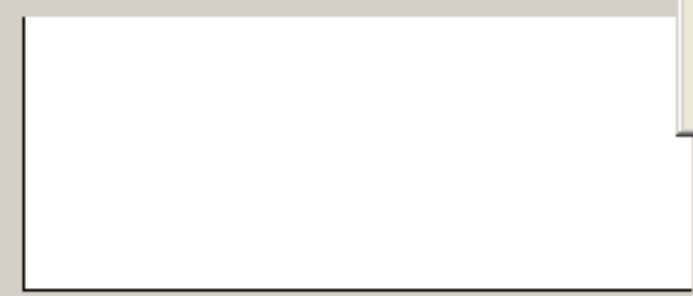
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Thresholded total counts XZ



80% Progress

Loading Bif Files...

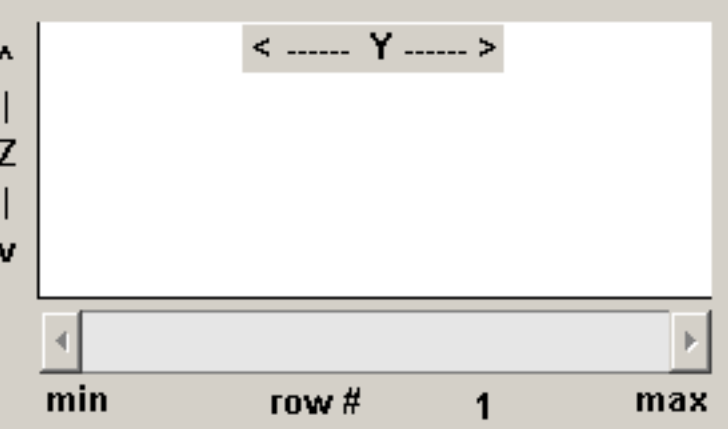
Estimated time remaining: 00:00:00

Z corrected image XZ



The files will be loaded in to Matlab and the ZcorrectorGui.

← →



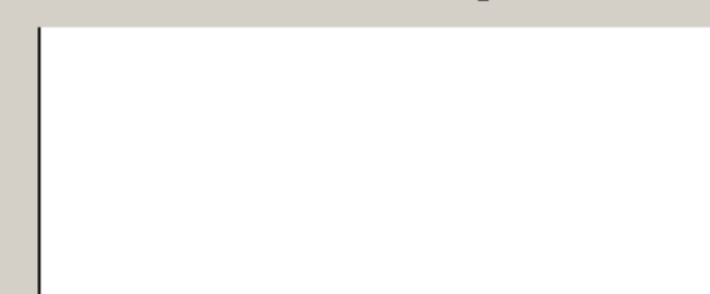
Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Adjust Total Counts Threshold Value

Close

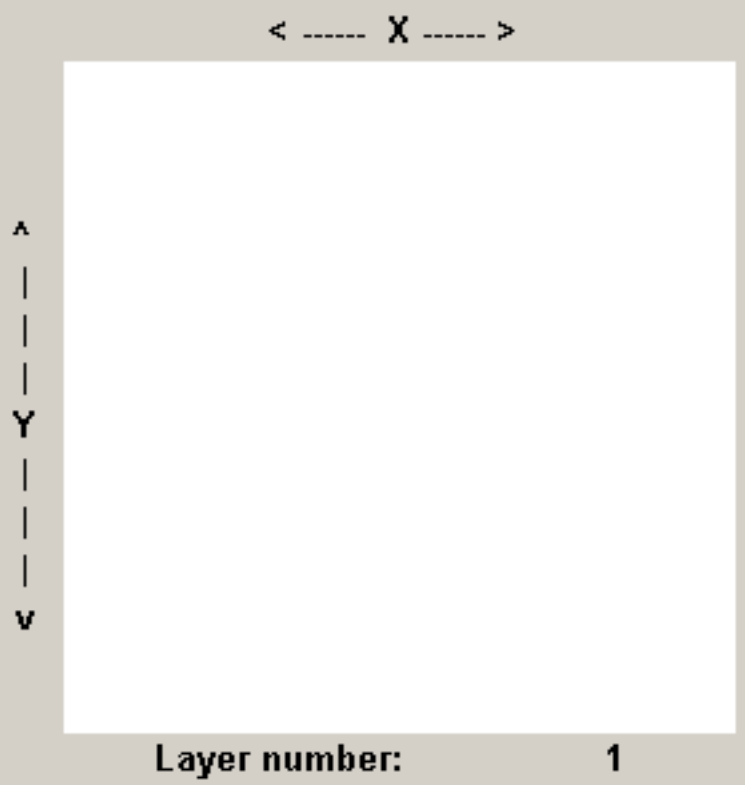
Overlay Tools

3D Tools

Data Being Displayed

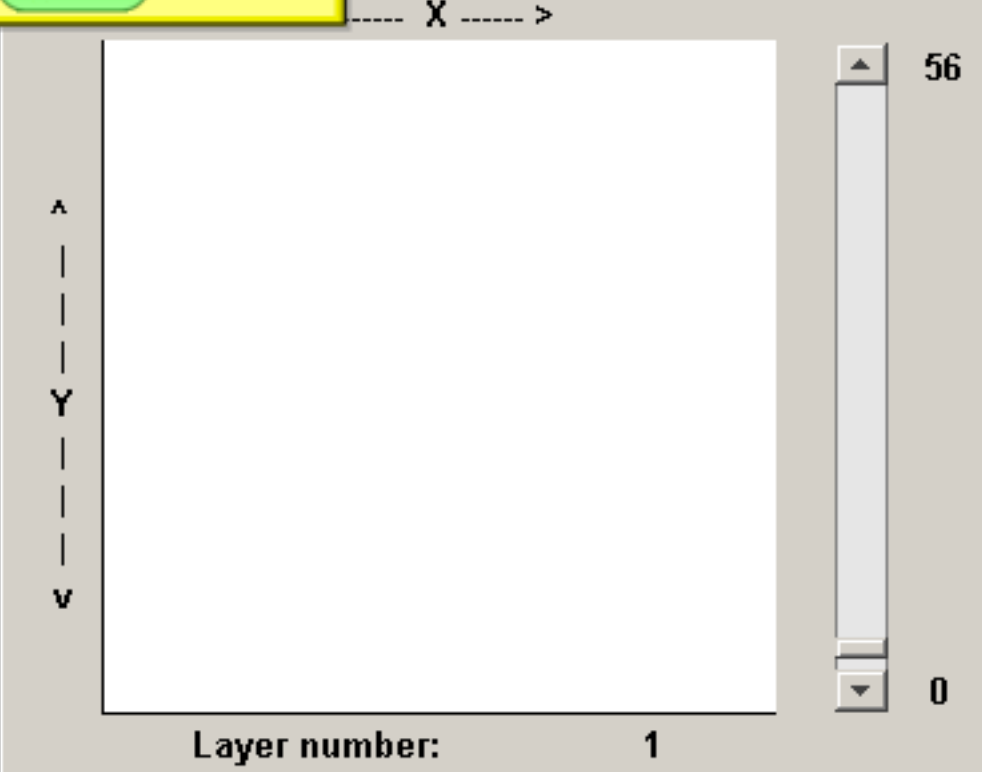
Total_Counts

The number of layers loaded will be shown here.



Total_Counts

58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

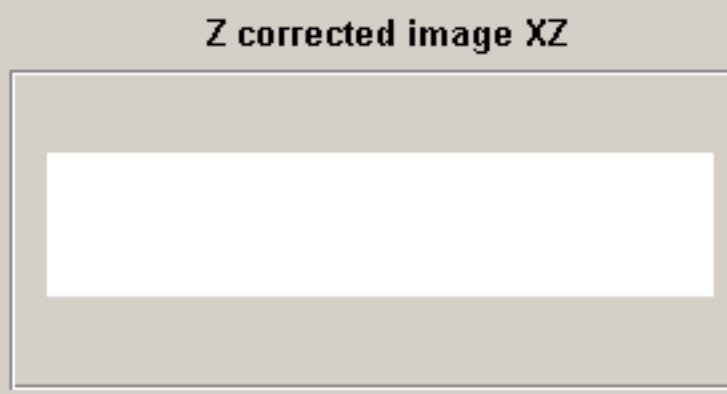
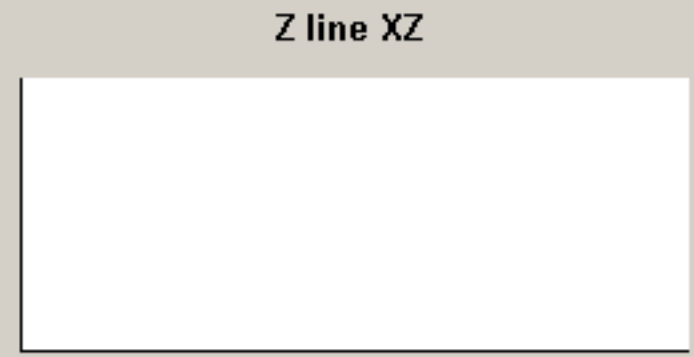
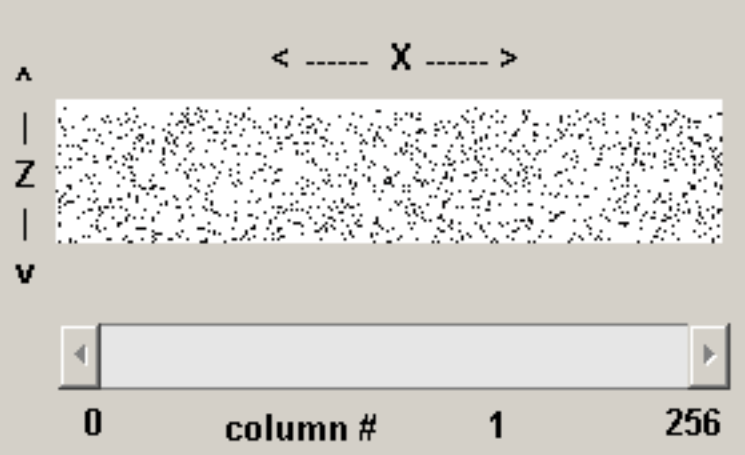


If you want to save the movie frames check this box before creating the movie.

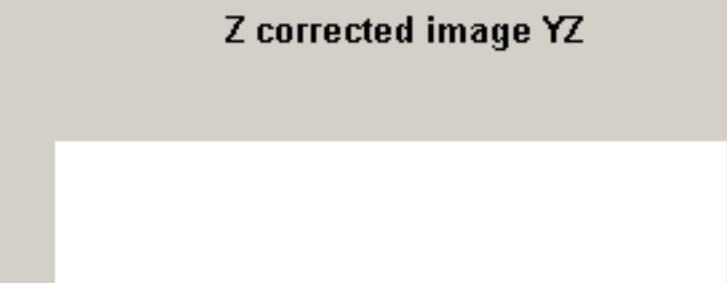
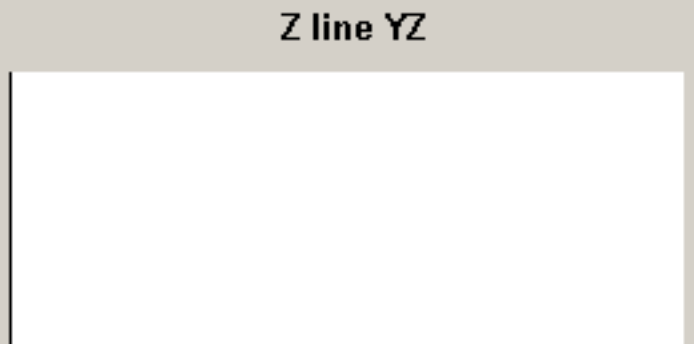
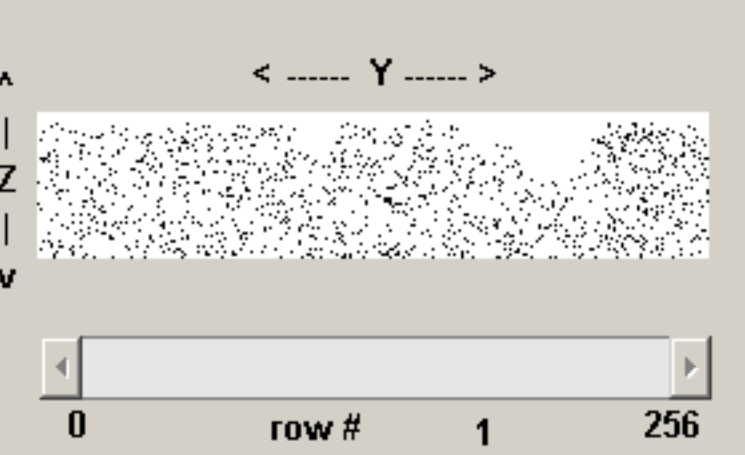
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

Data Being Displayed

Total_Counts

Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

If you have a large number of layers (>100) or a large number of peaks in each layer, you should downbin the data to avoid 'Out of Memory' errors with matlab.

Downbinning reduces the dimensions of the image by a factor of 2 on each side, so a 256x256 pixel image is reduced to 128x128 pixels.

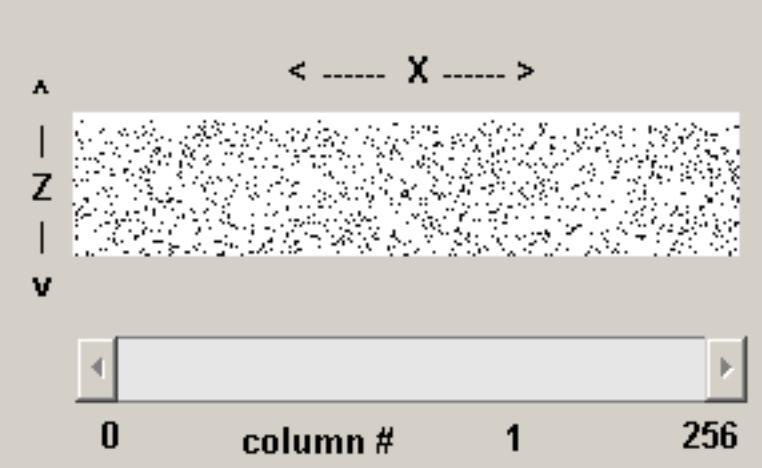
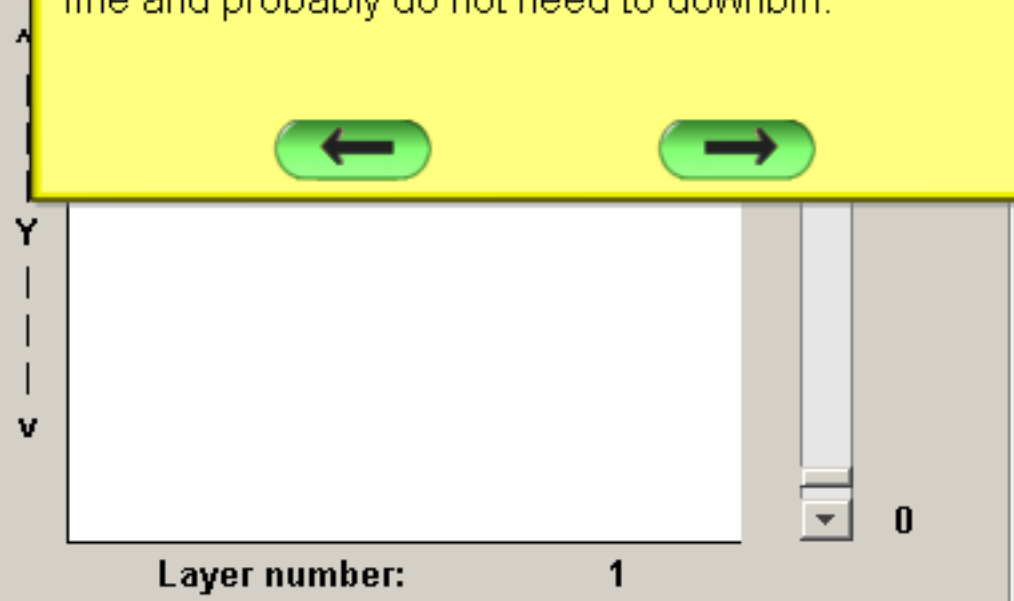
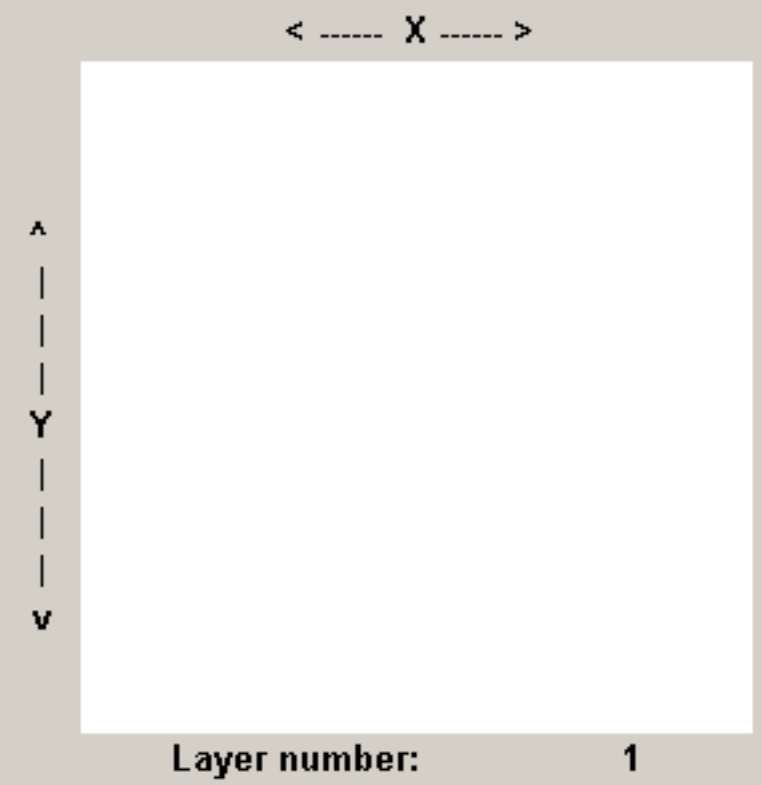
If you start with 128x128 pixel images, you should be fine and probably do not need to downbin.

☐ If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

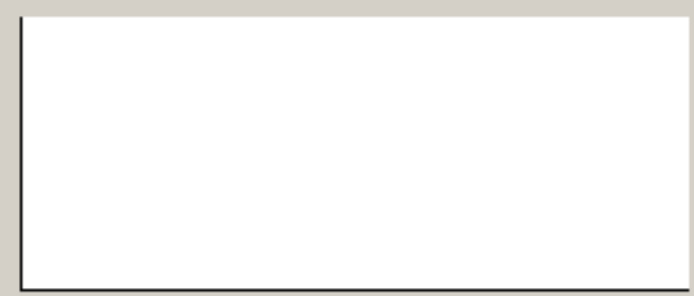
Create YZ Corr Slice Movie



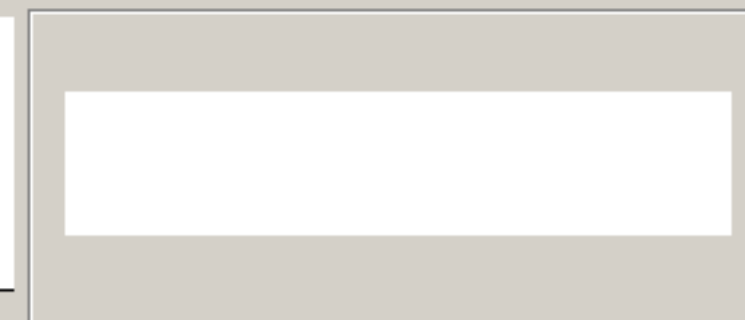
Thresholded total counts XZ



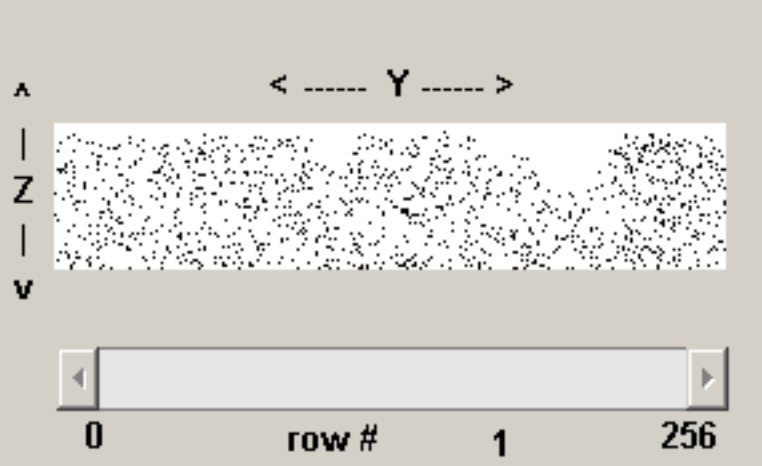
Z line XZ



Z corrected image XZ



Save Corr XZ



Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

☐ Work with Un-corrected Data

Close

Overlay Tools

3D Tools

Data Being Displayed
Total_Counts

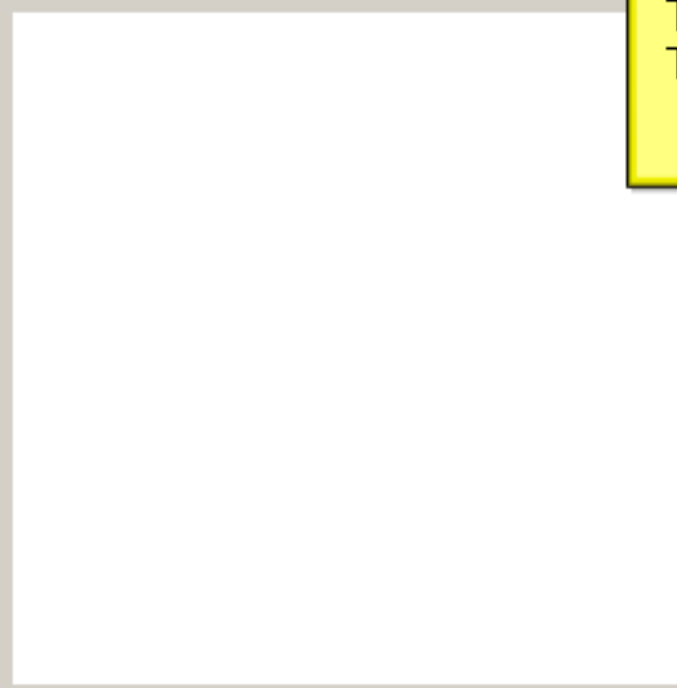
< ----- X ----- >

The ZcorrectorGui uses a thresholded total counts image to find the 'true' z=0 line. Noise in the data can cause artifacts in the corrected data.

To adjust the threshold used in this calculation press the 'Adjust Total Counts Threshold Value' button.



A
|
Y
|
V



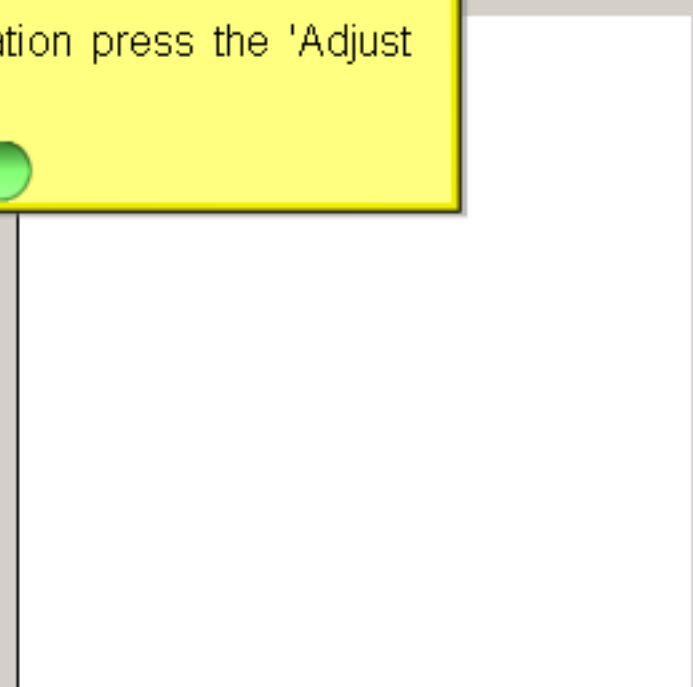
Layer number: 1



0

123.1384
166.2641
184.3038
224.3978

Y
|
V



Layer number: 1



56

☐ If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

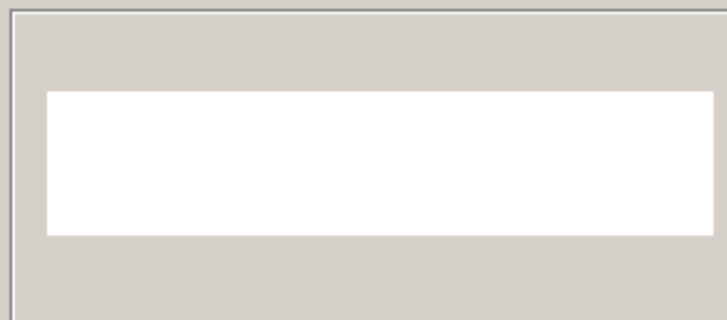
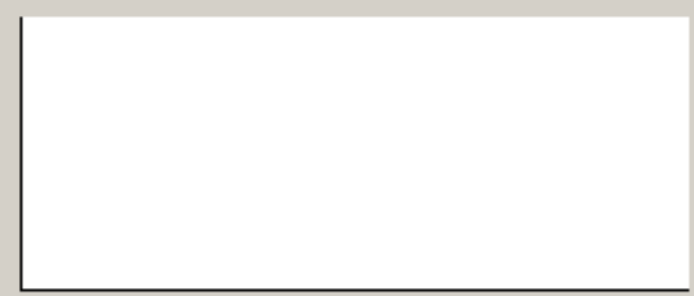
A
|
Z
|
V

< ----- X ----- >

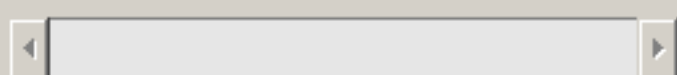
Thresholded total counts XZ

Z line XZ

Z corrected image XZ



Save Corr XZ



0 column # 1 256

A
|
Z
|
V

< ----- Y ----- >

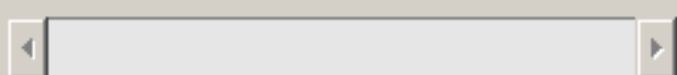
Thresholded total counts YZ

Z line YZ

Z corrected image YZ



Save Corr YZ



0 row # 1 256

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Data Being Displayed

Total_Counts

Peak List

Total Counts
58.10555
70.13471
86.19242
101.2443

This brings up this view. There are two sliders.

☐ Work with Uncorrected Data

Overlay Tools

3D Tools

1 Threshold value 9 255



1 slice # 1 256

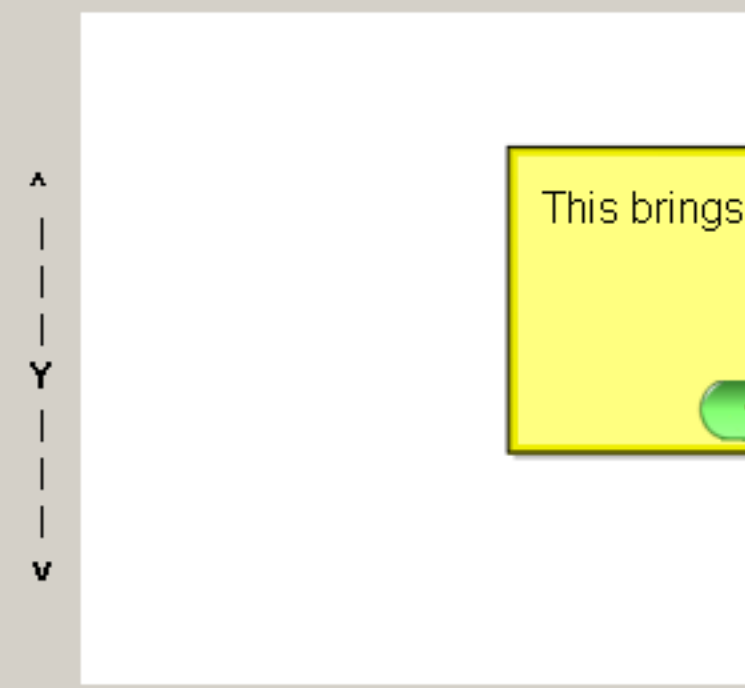
Close

If you want to save the movie frames check this box before creating the movie.

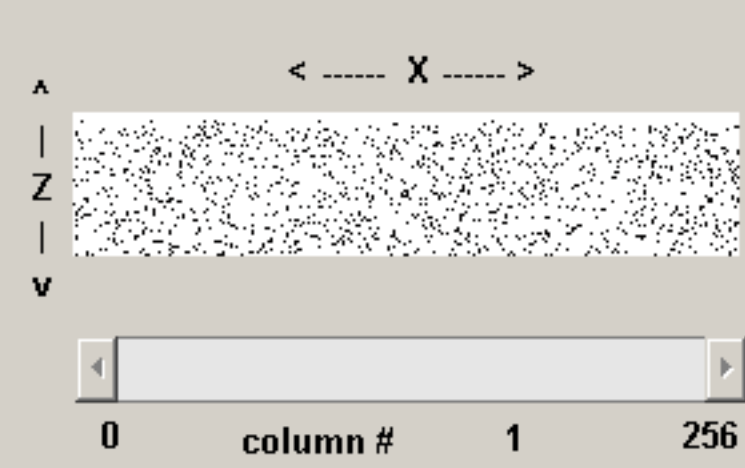
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



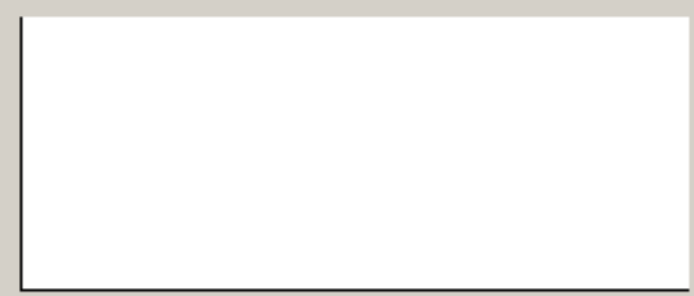
Layer number: 1



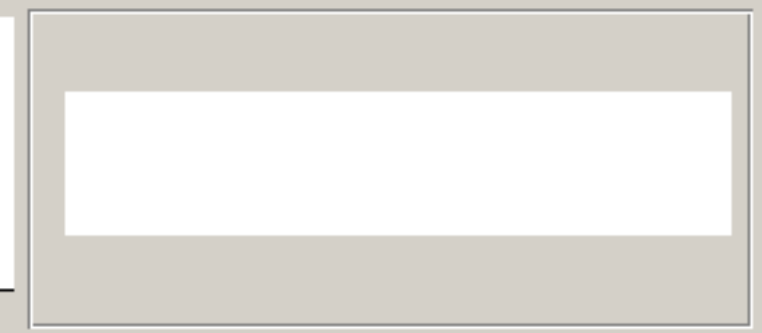
Thresholded total counts XZ



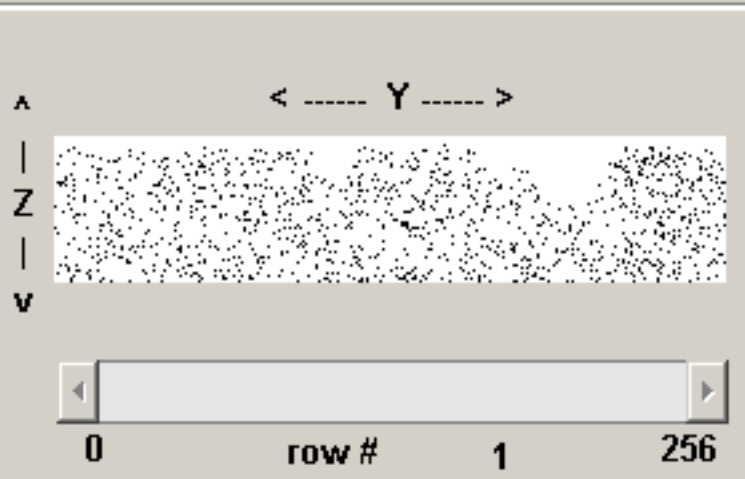
Z line XZ



Z corrected image XZ



Save Corr XZ



Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Data Being Displayed

Total_Counts

Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038

☐ Work with Uncorrected Data

Overlay Tools

3D Tools

< ----- X ----- >

Y

56

Layer number: 1

0

This slider allows you to view different slices along the X-Z axis of your data stack to see what the current thresholded Total counts image looks like for a given slice.

1 Threshold value 9 255



1 slice # 74 256

Close

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

< ----- X ----- >

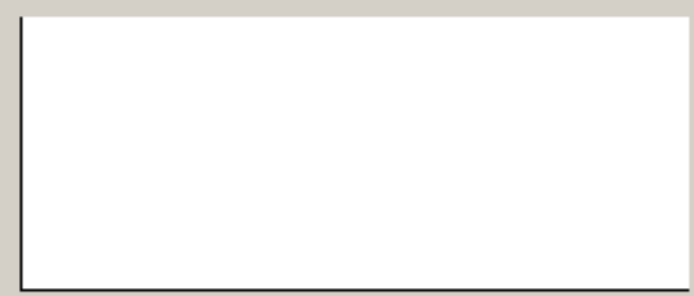
Z

0 column # 1 256

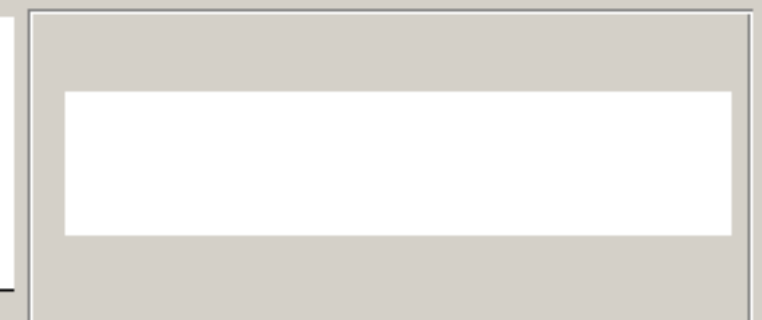
Thresholded total counts XZ



Z line XZ



Z corrected image XZ



Save Corr XZ

< ----- Y ----- >

Z

0 row # 1 256

Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

Data Being Displayed

Total_Counts

Peak List

☐ Work with Uncorrected Data

This slider allows you to change the Threshold value. It is currently set at 9 so anything below 9 counts is set to black and everything above 9 is set to white.

When you load your data the threshold value is set to the mean of the intensities for the entire data stack. This is typically a good starting point.

1 Threshold value 9 255



1 slice # 74 256

Close

☐ If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

< ----- X ----- >

A
|
Y
|
V

Layer number: 1

< ----- X ----- >

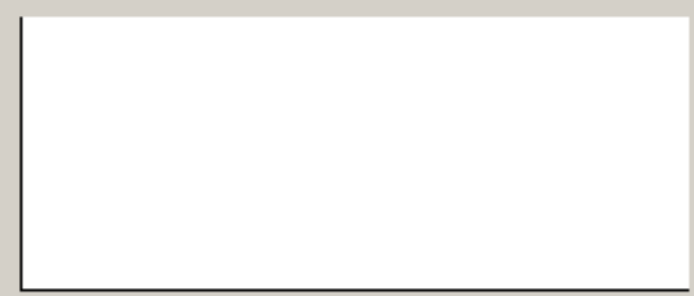
A
|
Z
|
V

0 column # 1 256

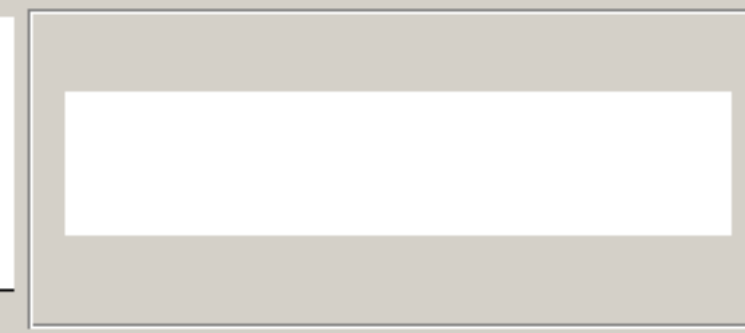
Thresholded total counts XZ



Z line XZ



Z corrected image XZ



Save Corr XZ

< ----- Y ----- >

A
|
Z
|
V

0 row # 1 256

Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

Data Being Displayed

Total_Counts

Peak List

< ----- X ----- >

Now we have changed the threshold value to 11. As you can see the noise in the image (individual white pixels) has been removed.

It is recommended to set the threshold value at the lowest value that gives good contrast to avoid changing the data too much.



1 Threshold value 11 255



1 slice # 70 256

Close

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

A
|
Y
|
V

Layer number: 1

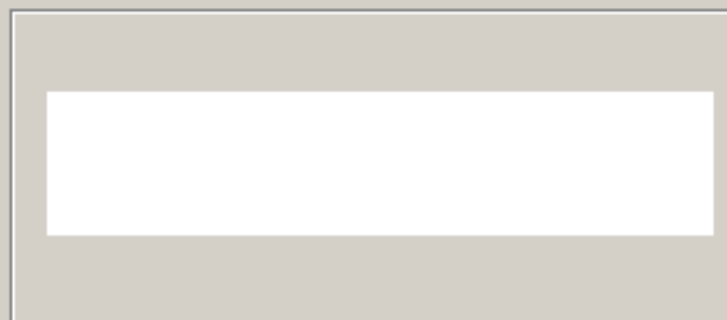
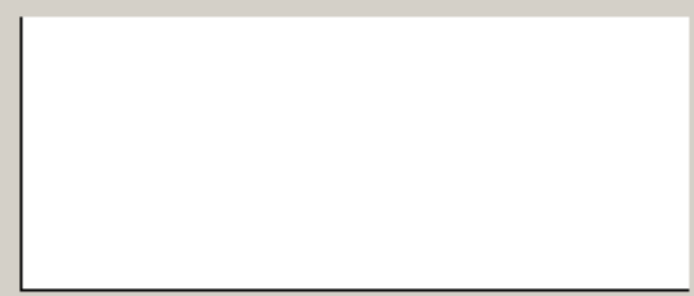
Thresholded total counts XZ

Z line XZ

Z corrected image XZ

< ----- X ----- >

0 column # 1 256



Save Corr XZ

Thresholded total counts YZ

Z line YZ

Z corrected image YZ

< ----- Y ----- >

0 row # 1 256



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

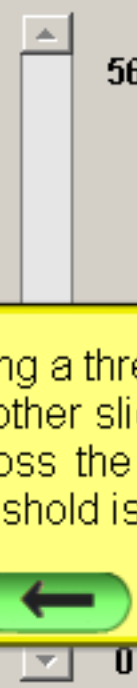
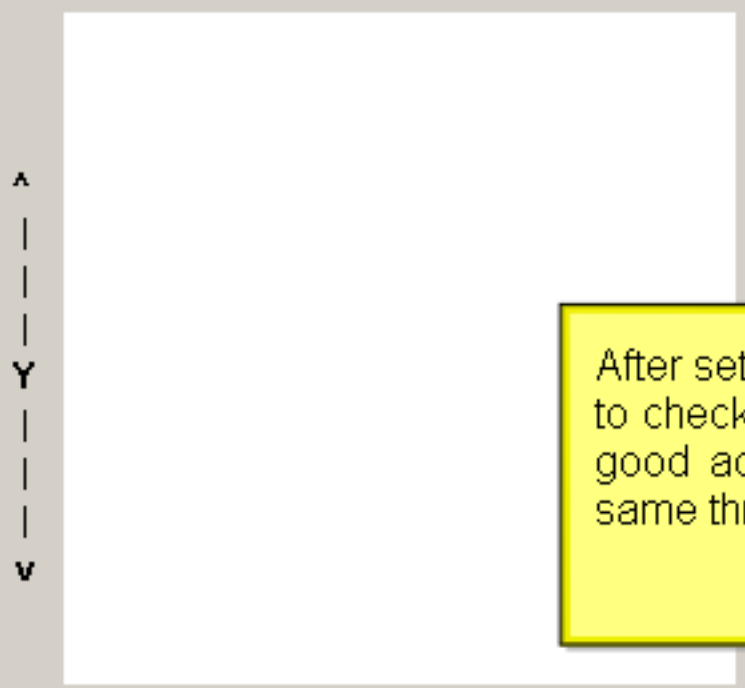
3D Tools

Data Being Displayed

Total_Counts

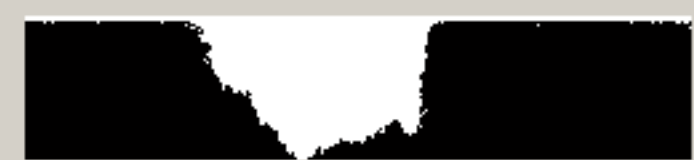
Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038



After setting a threshold value it is a good idea to check other slices to see if that threshold is good across the whole data stack since the same threshold is used for all data slices.

1 Threshold value 11 255



1 slice # 131 256

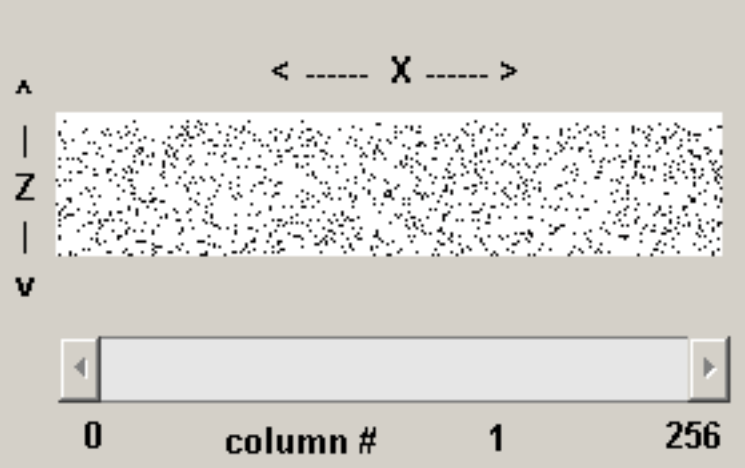
Close

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

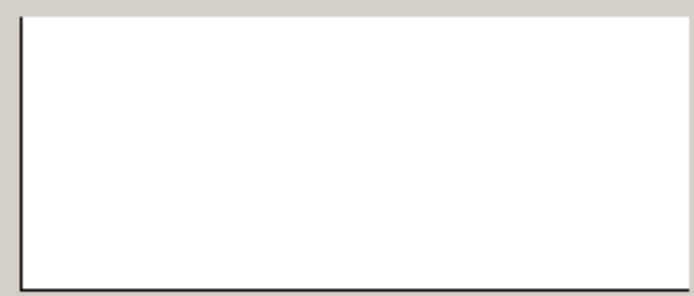
Create YZ Corr Slice Movie



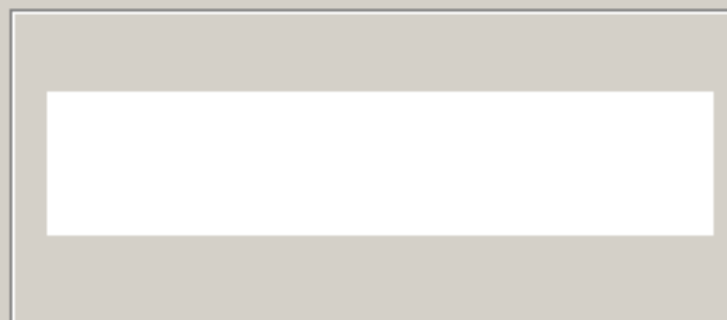
Thresholded total counts XZ



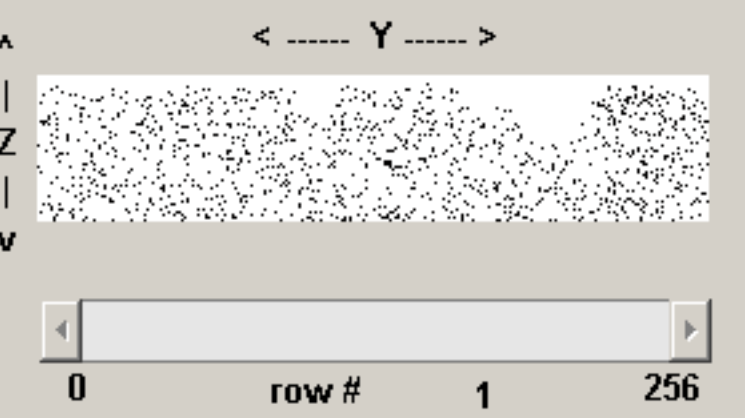
Z line XZ



Z corrected image XZ



Save Corr XZ



Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

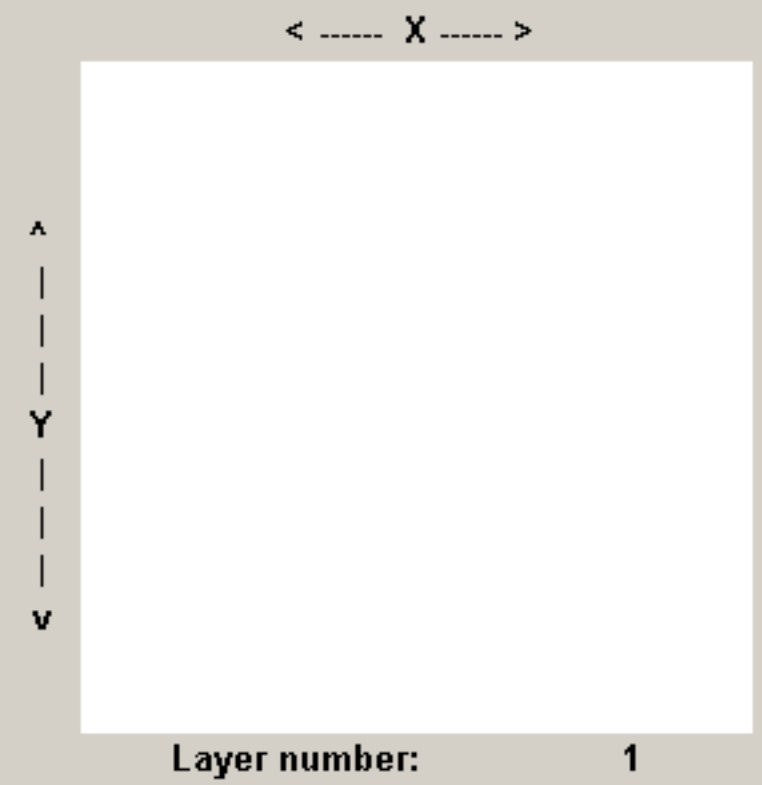
Close

Overlay Tools

3D Tools

Data Being Displayed

Total_Counts



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

☐ Work with Uncorrected Data

1 Threshold value 11 255

1 slice # 131 256

Close

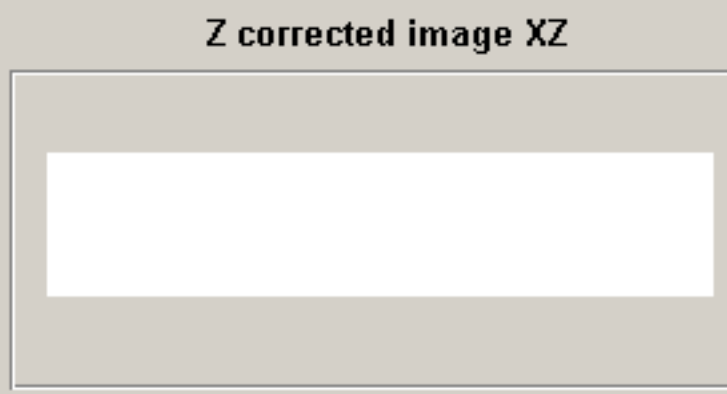
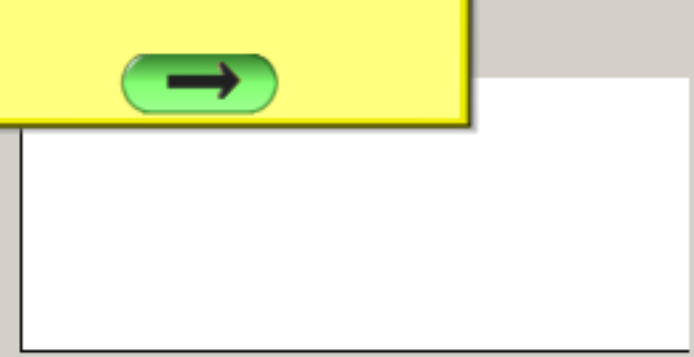
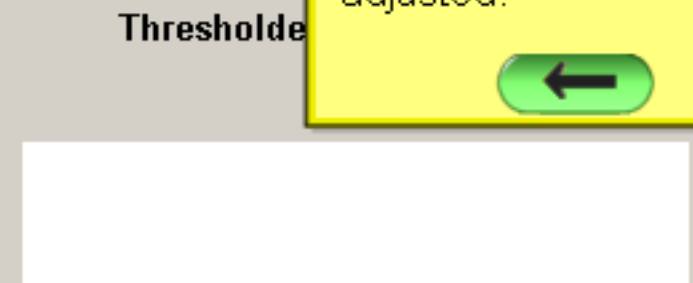
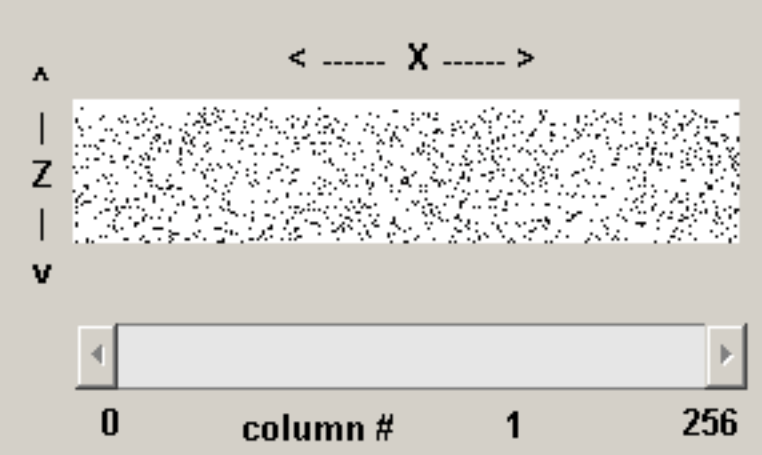
If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

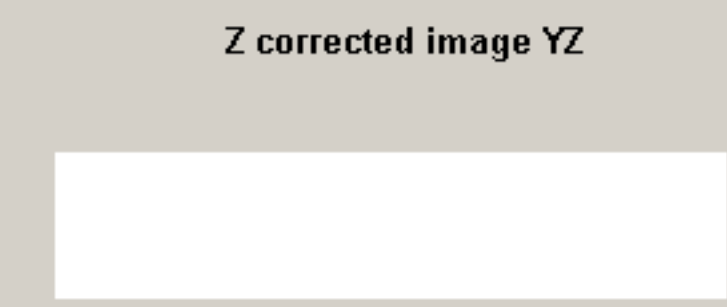
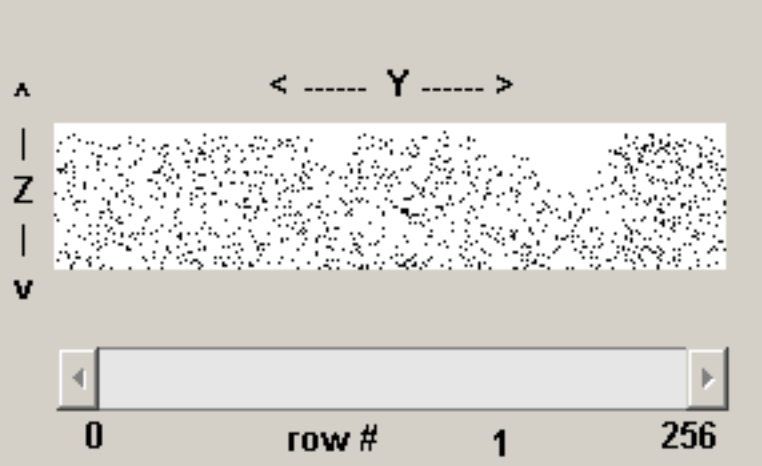
Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

Once you have set the threshold, press the 'Close' button. The threshold is automatically saved whenever the Threshold slider is adjusted.



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

☐ Work with Uncorrected Data

Close

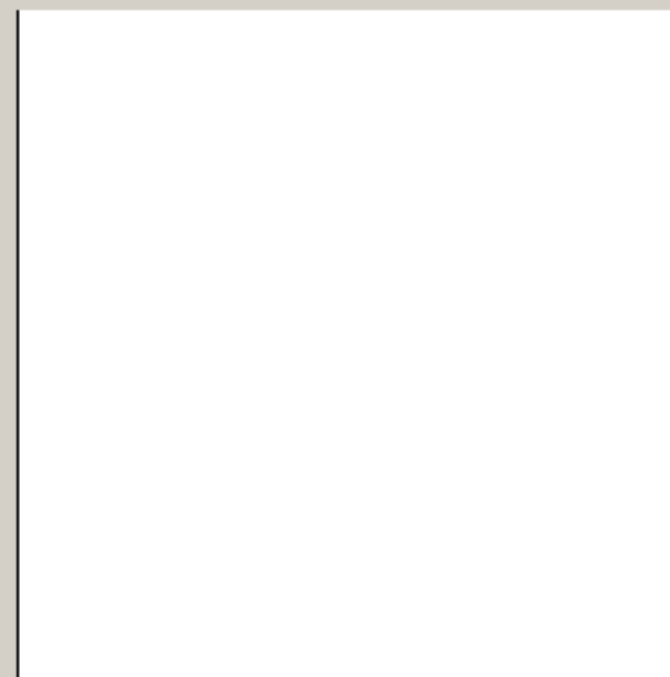
Overlay Tools

3D Tools

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >



Layer number: 1

☐ If you want to save the movie frames check this box before creating the movie.

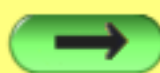
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

Before viewing any corrected data, we need to initialize the corrected data matrix. This calculates the corrected data for all peak images across all slices. It takes a bit of time, but makes further processing faster since the software doesn't have to recalculate the correction later.

To start the process, press the 'Initialize Corrected Data' button.

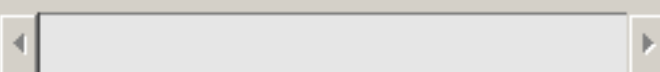
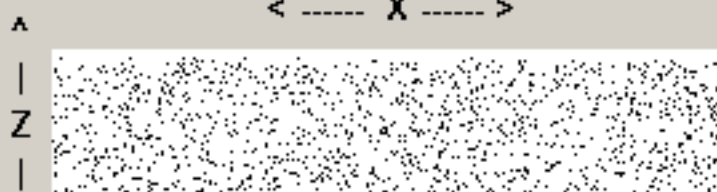


184.3038
224.3978

Layer number: 1

Thresholded total counts XZ

< ----- X ----- >

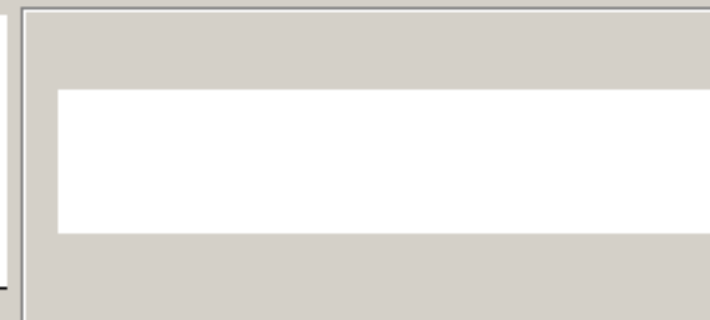


0 column # 1 256

Z line XZ



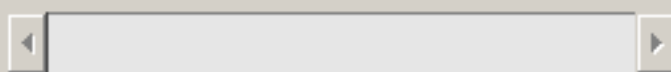
Z corrected image XZ



Save Corr XZ

Thresholded total counts YZ

< ----- Y ----- >



0 row # 1 256

Z line YZ



Z corrected image YZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

Data Being Displayed

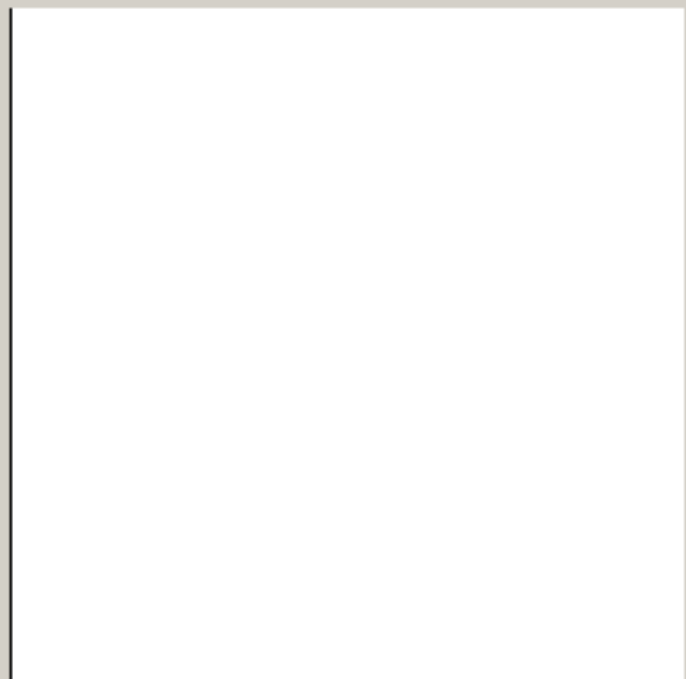
Total_Counts

Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY



If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

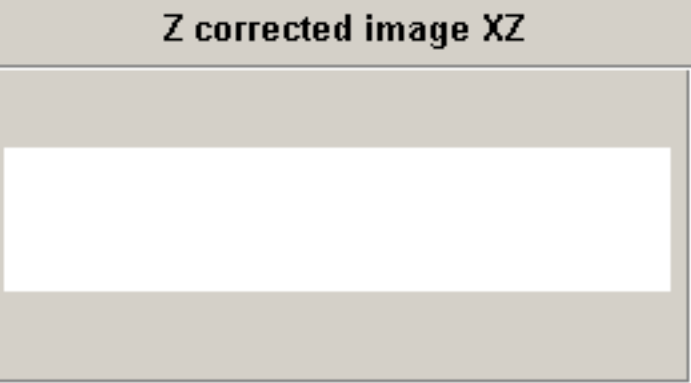
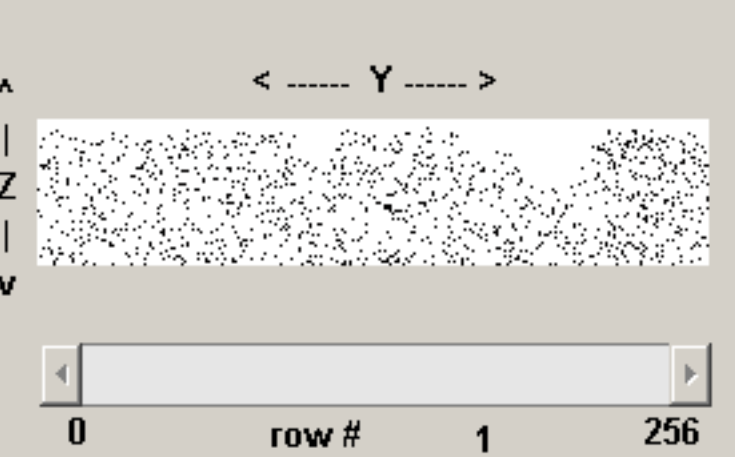
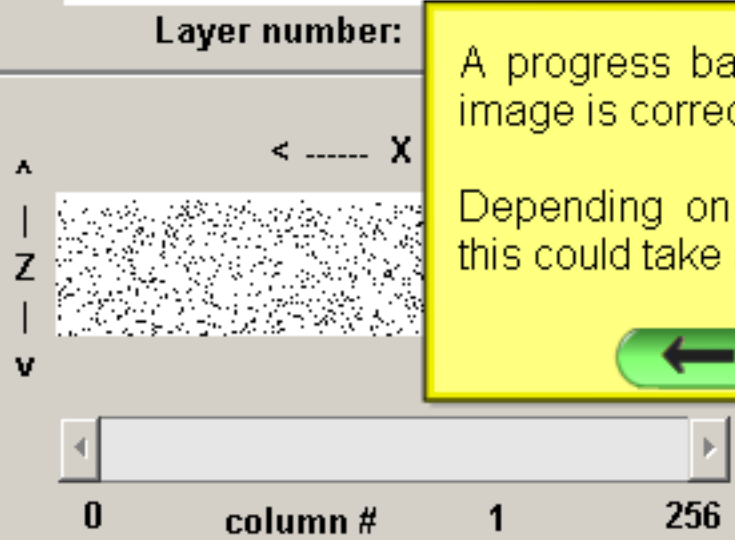
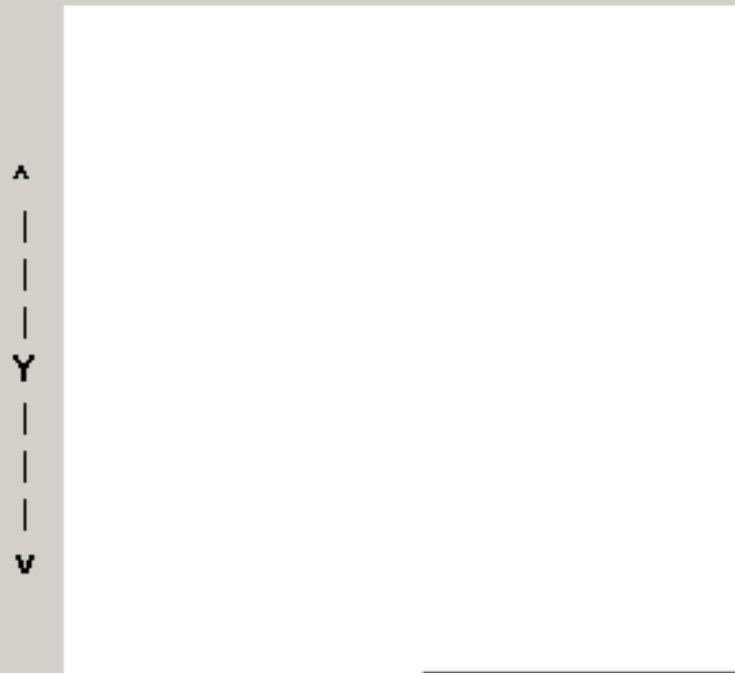
A progress bar will be shown as each peak image is corrected.

Depending on the speed of your computer, this could take a while. So sit back and relax.

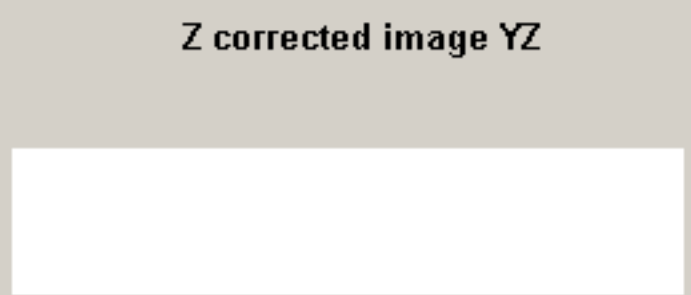
40% Progress

Creating Corrected XY matrix for Total_Counts

Estimated time remaining: 00:00:01



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

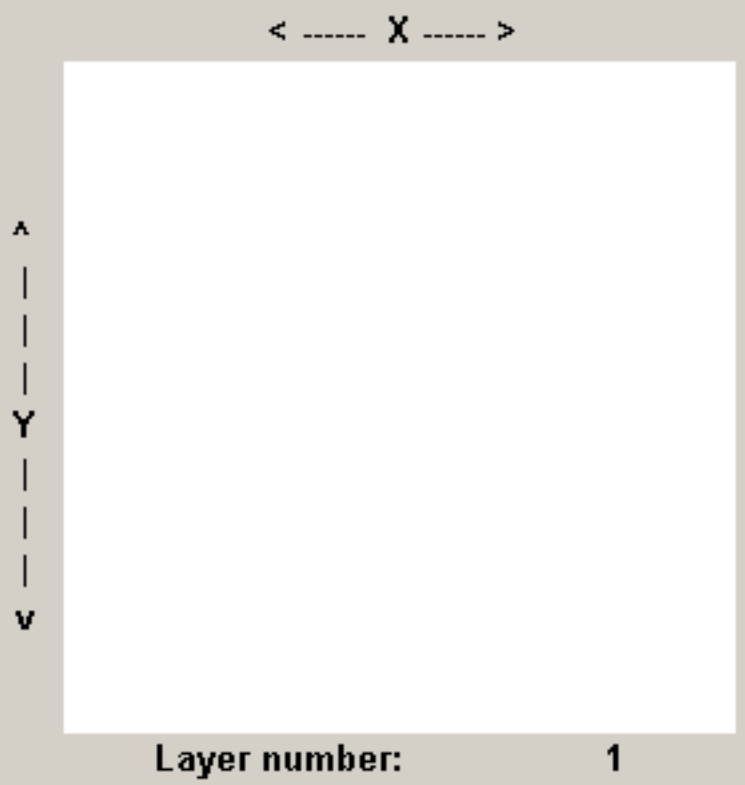
Downbin Data

Adjust Total Counts Threshold Value

Close

Data Being Displayed

Total_Counts



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >

Layer number: 1

Overlay Tools

3D Tools

If you want to save the movie frames check this box before creating the movie.

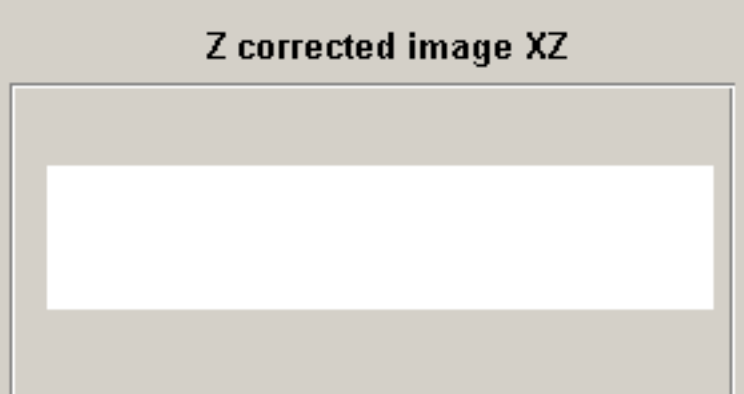
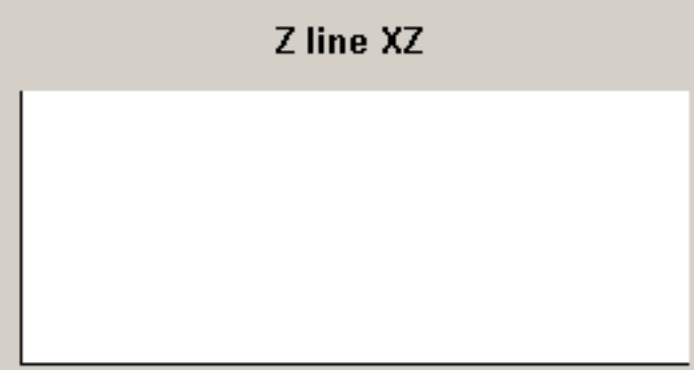
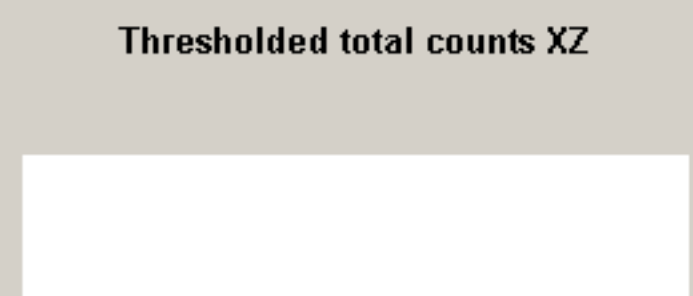
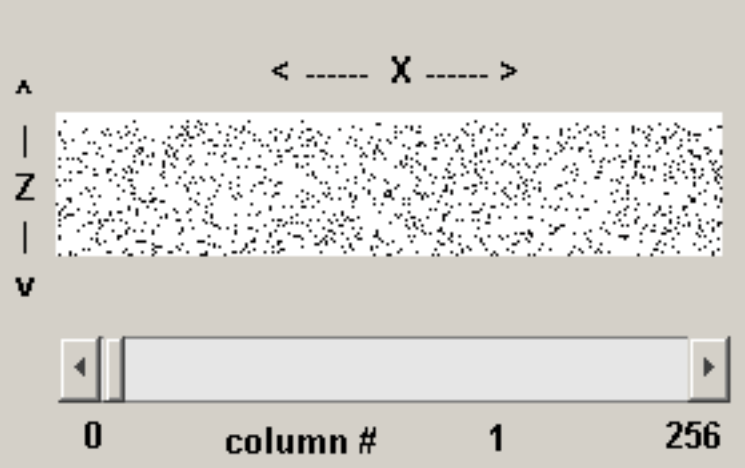
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

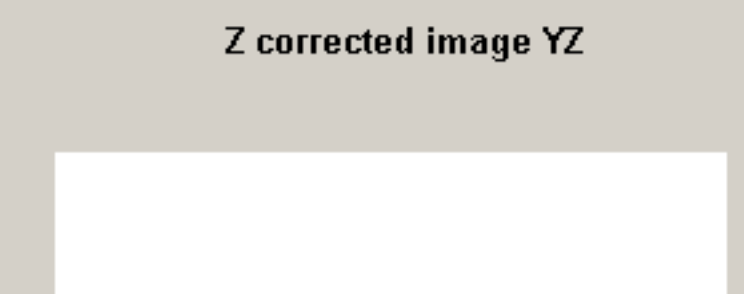
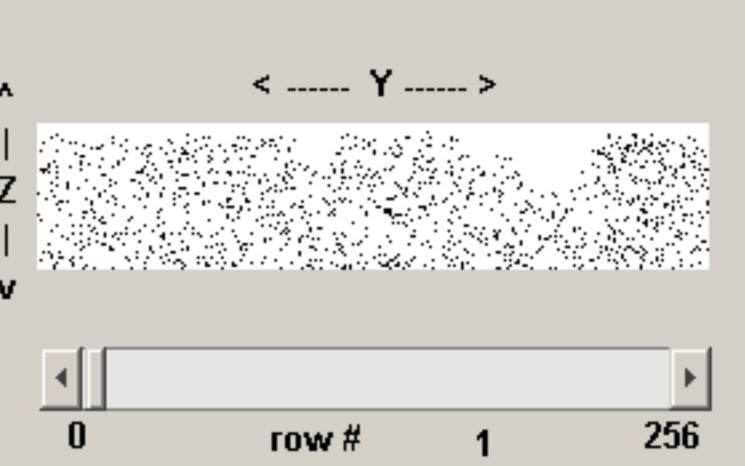
Create YZ Corr Slice Movie

Once all of the data has been corrected we can select a peak and look at the corrected data.

Click on a peak from the list...



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

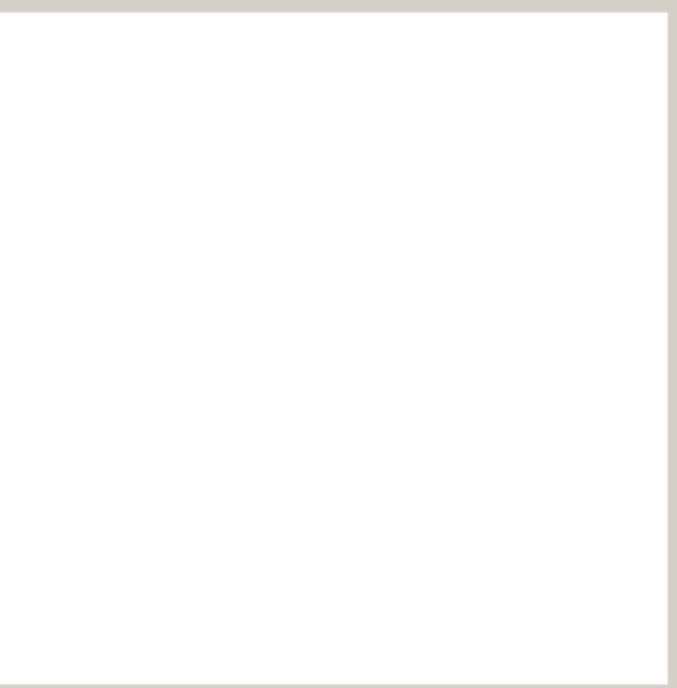
Overlay Tools

3D Tools

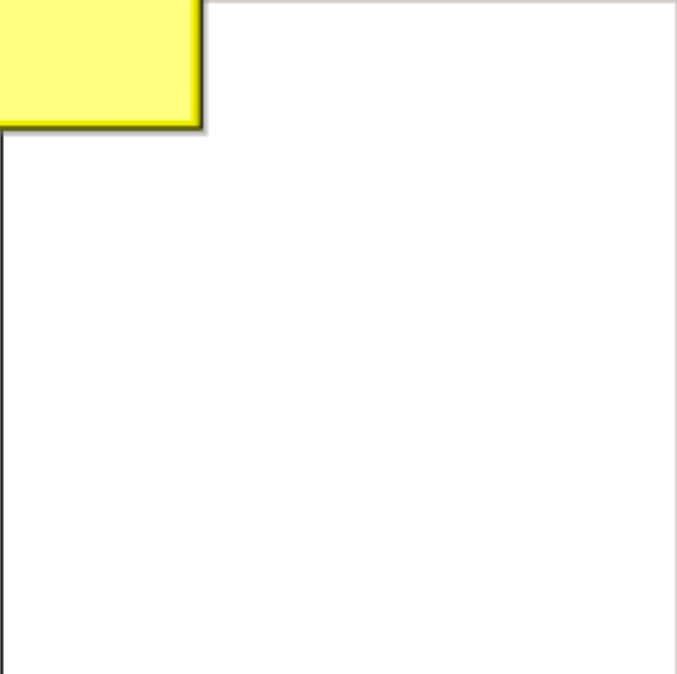
Data Being Displayed

58.10555

The data being displayed is shown here.



104.2413
125.1504
166.2641
184.3038
224.3978

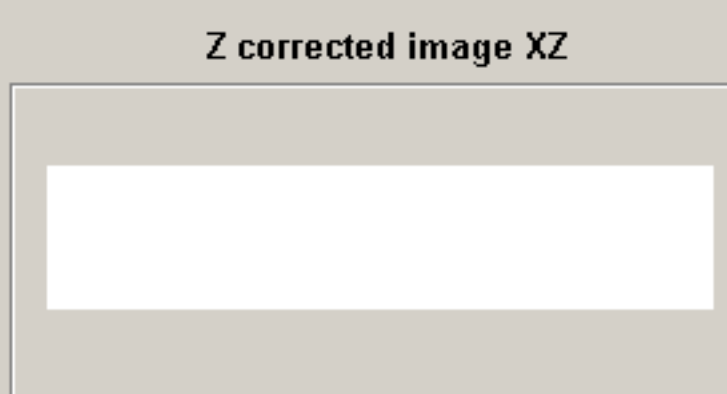
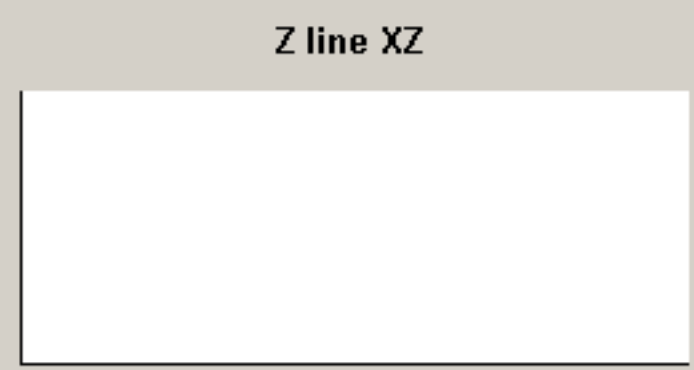
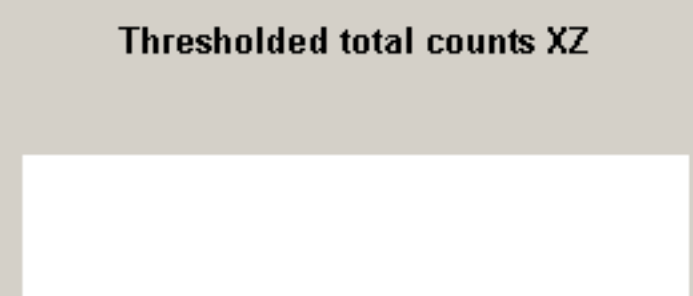
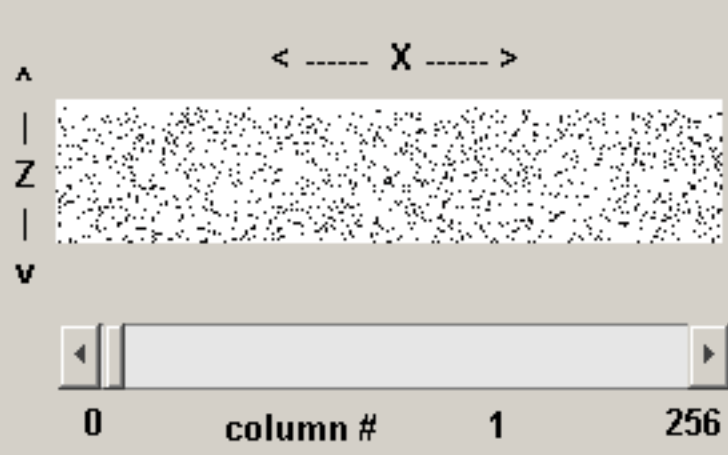


If you want to save the movie frames check this box before creating the movie.

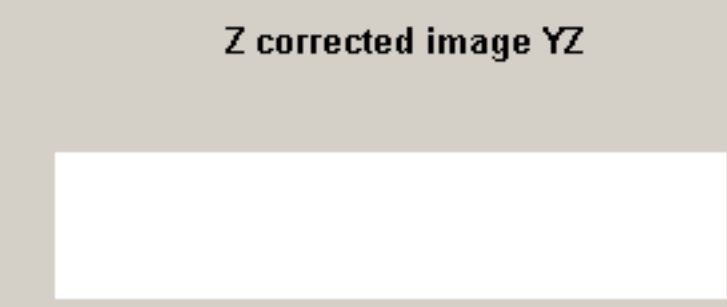
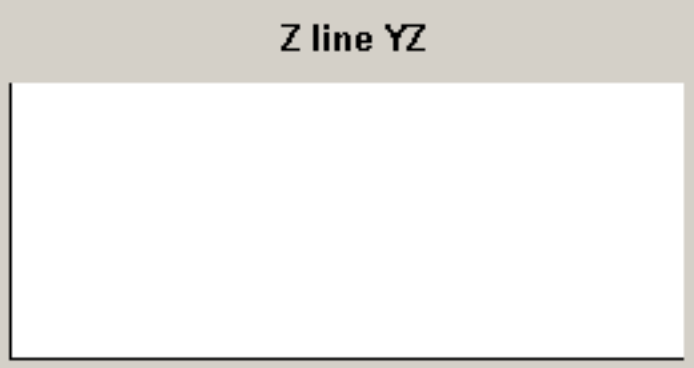
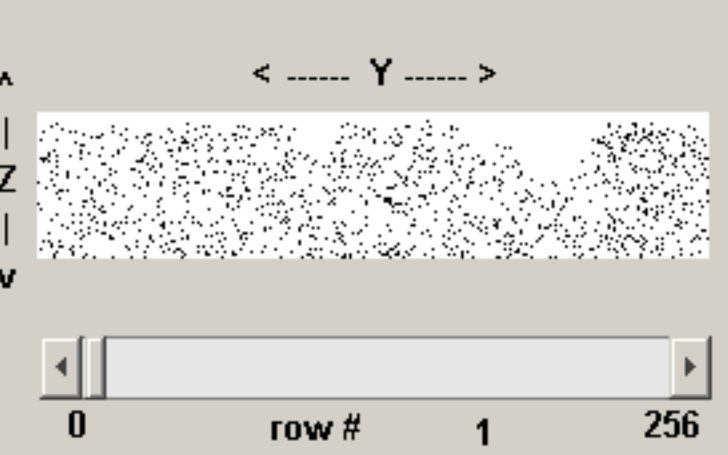
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

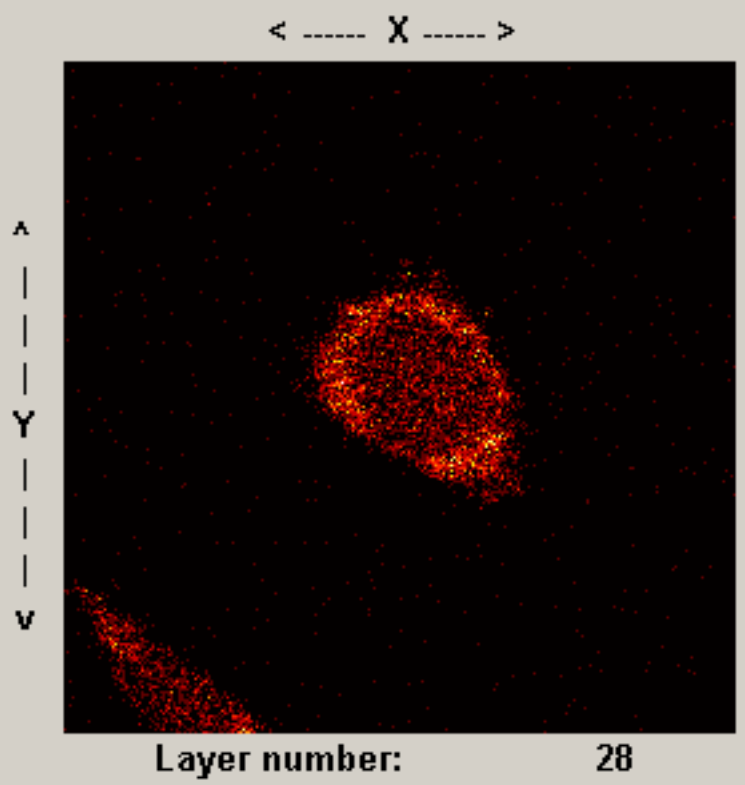
Downbin Data

Adjust Total Counts Threshold Value

Close

Data Being Displayed

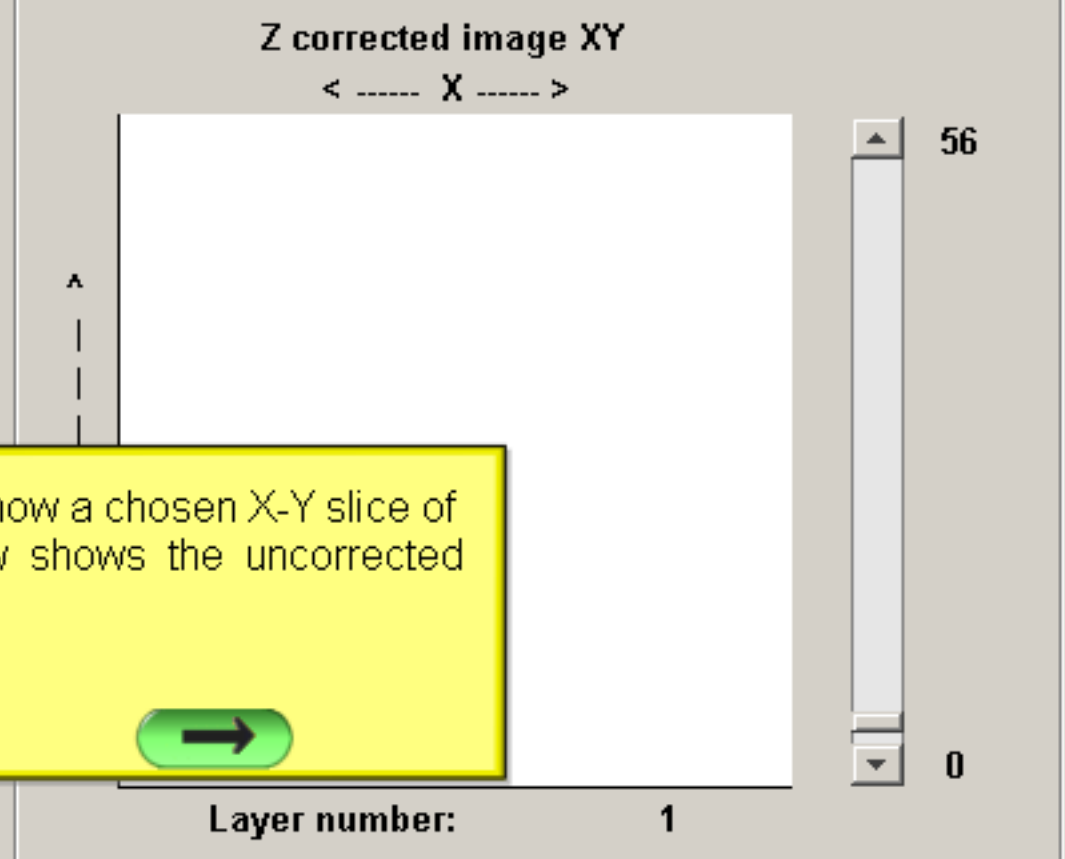
58.10555



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data



Overlay Tools

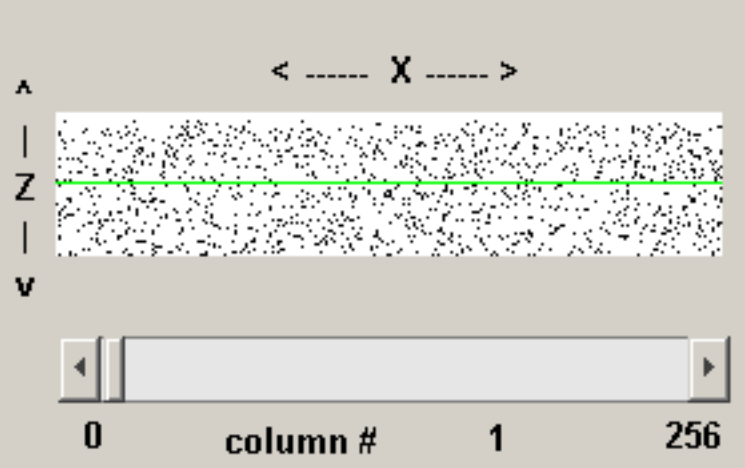
3D Tools

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

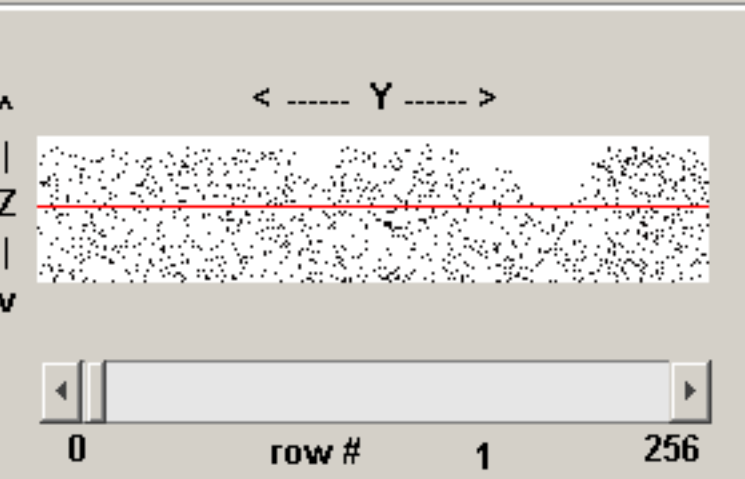


Thresholded total counts XZ

Z line XZ

Z corrected image XZ

Save Corr XZ



Thresholded total counts YZ

Z line YZ

Z corrected image YZ

Save Corr YZ

Adjust the slider to show a chosen X-Y slice of the data. This view shows the uncorrected Data.

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

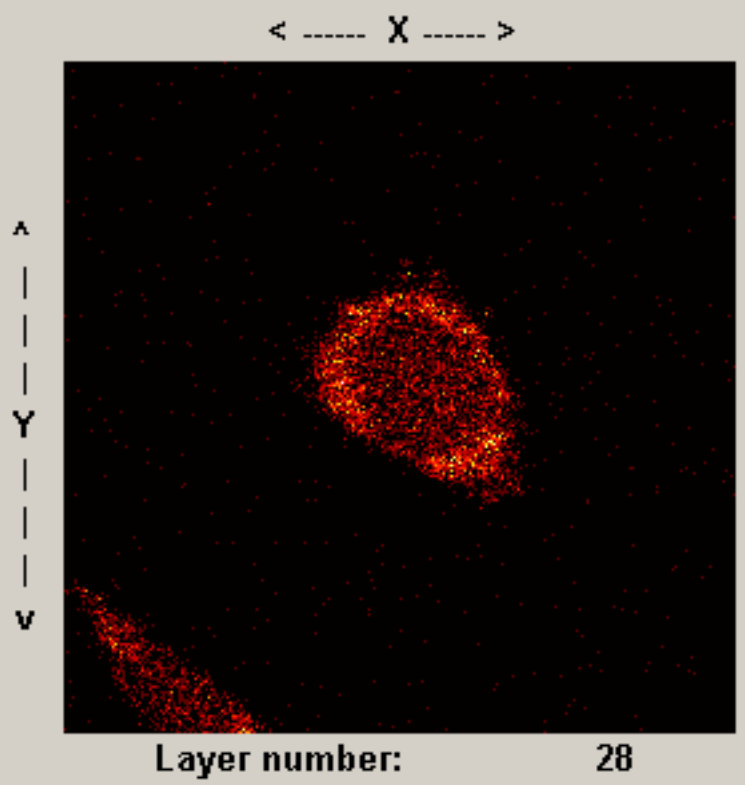
Close

Overlay Tools

3D Tools

Data Being Displayed

58.10555



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >

56

0

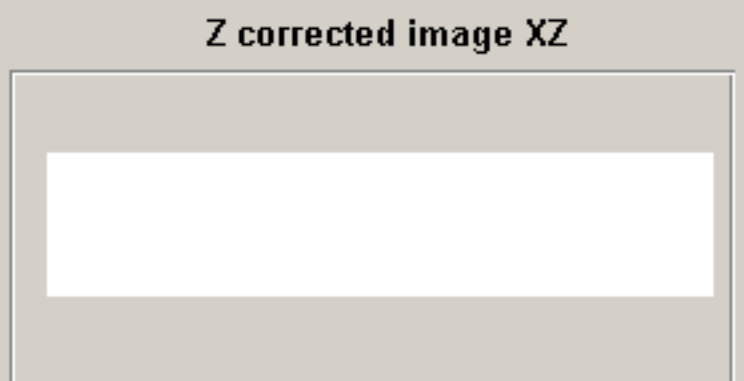
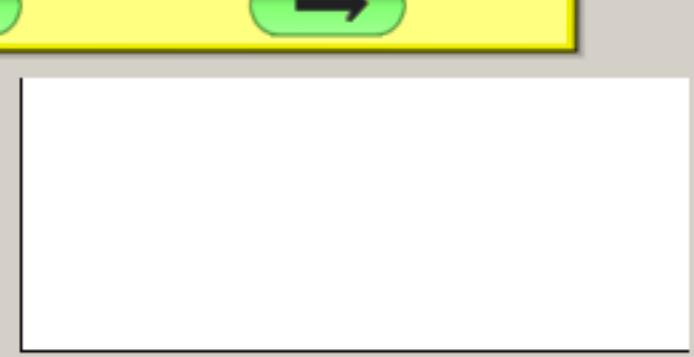
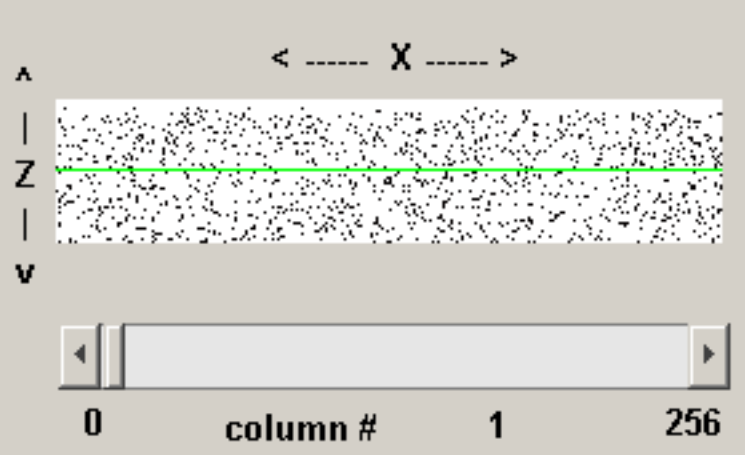
If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

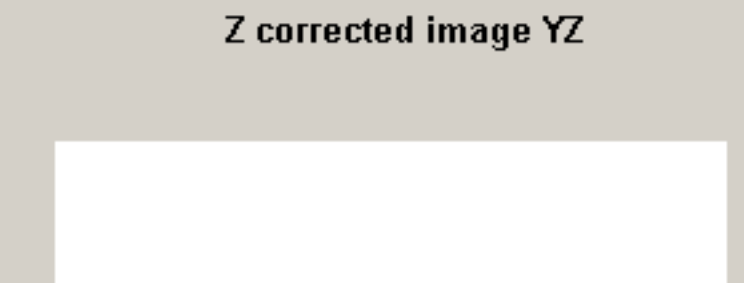
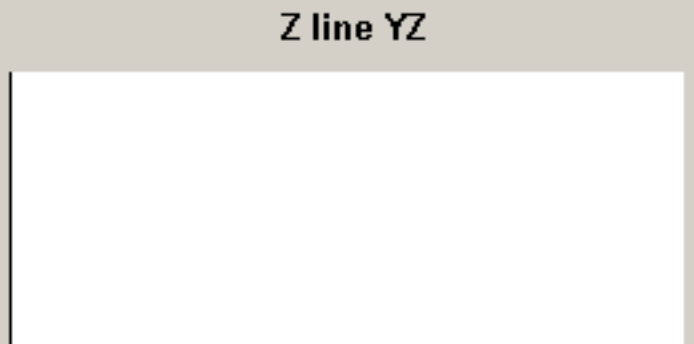
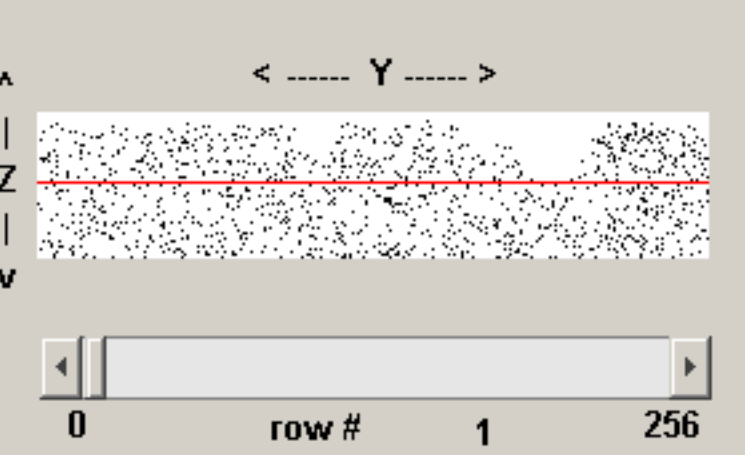
Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

This slider allows you to browse the corrected X-Y data slices.



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

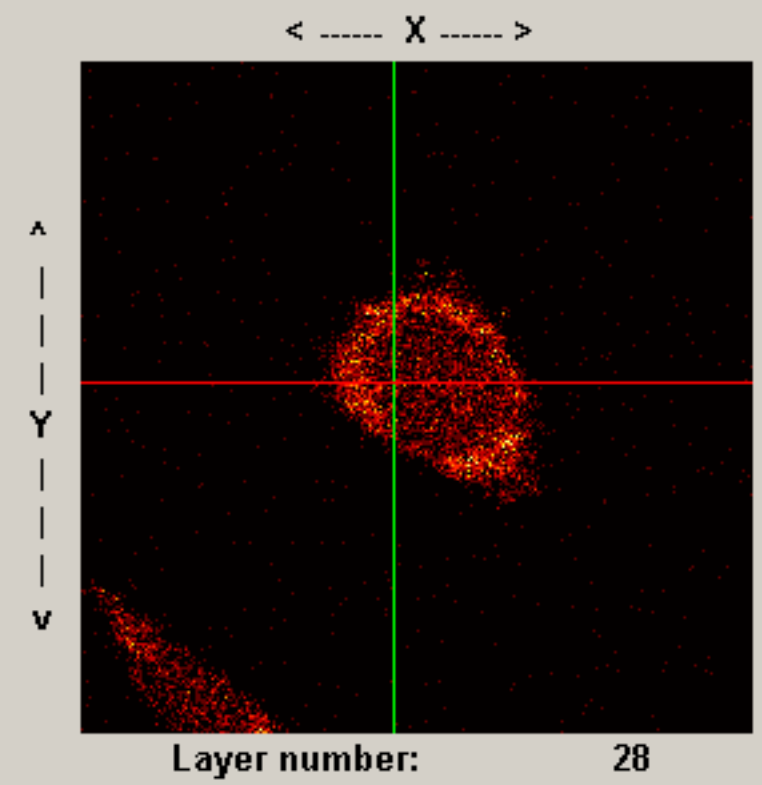
Close

Overlay Tools

3D Tools

Data Being Displayed

58.10555



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >

Layer number: 27

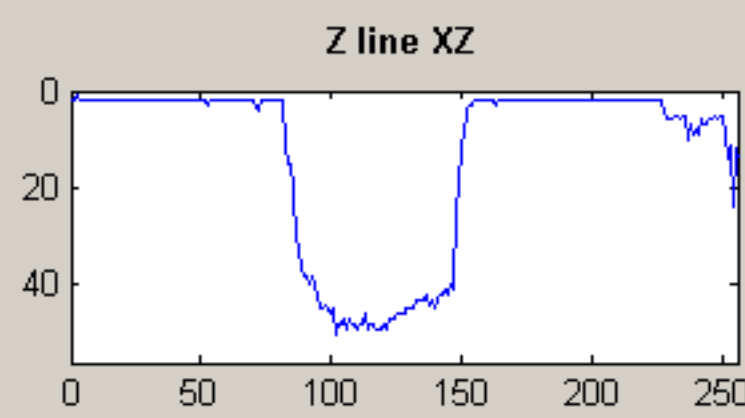
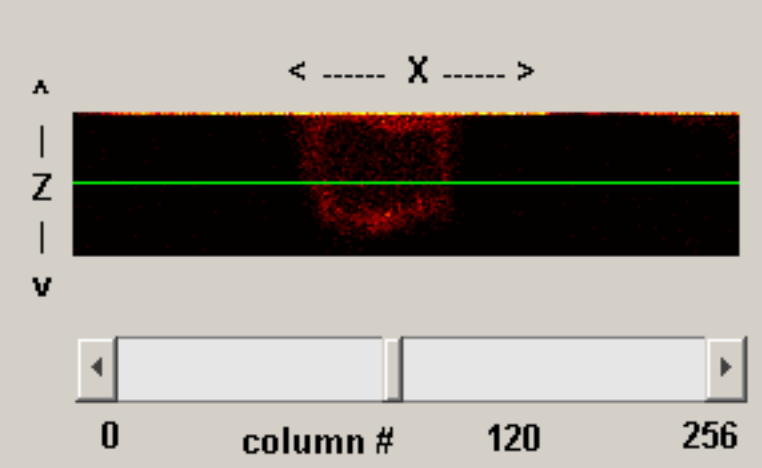
If you want to save the movie

☐ frames check this box before creating the movie.

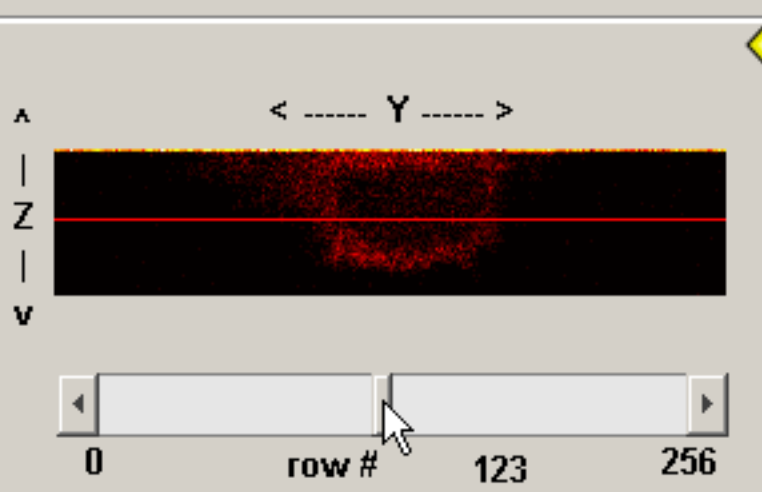
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

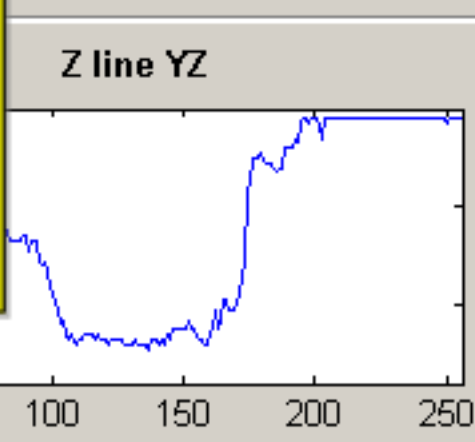


Save Corr XZ



Adjust the sliders for X-Z and Y-Z to see view the corrected data and the calculated data used for the correction.

← →



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

3D Tools

Data Being Displayed

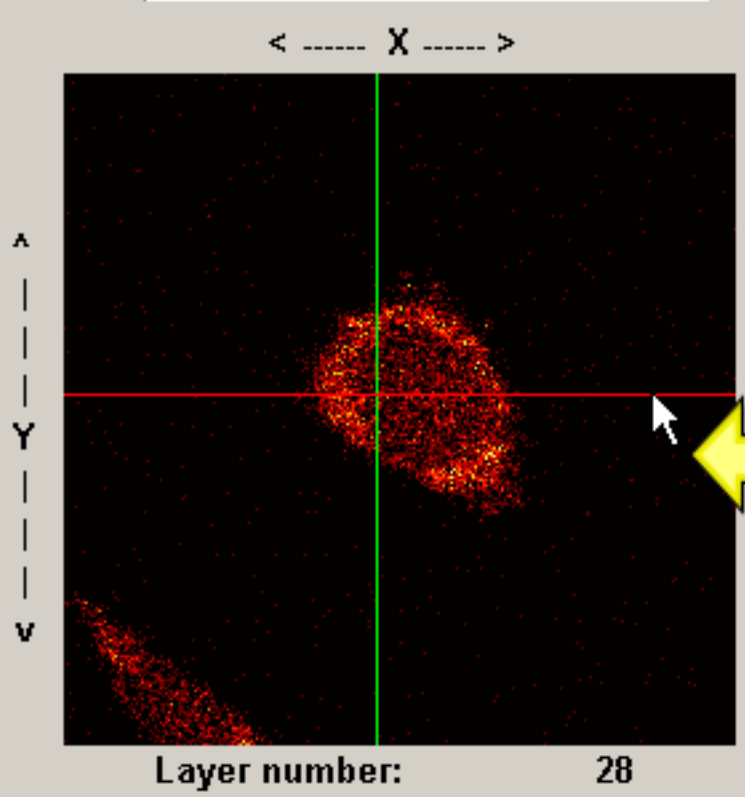
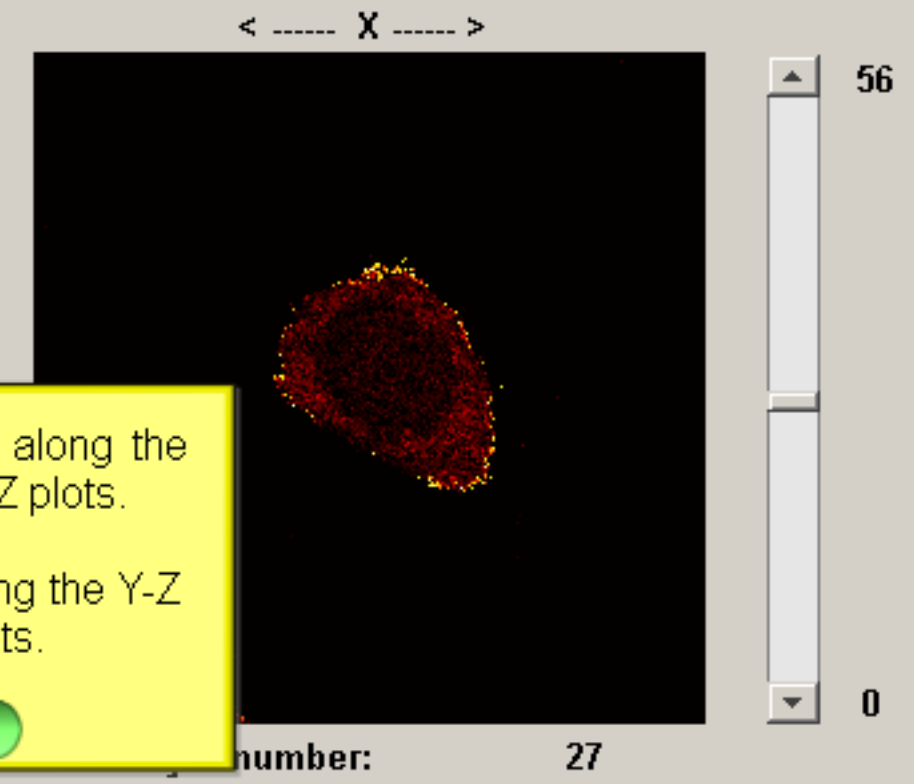
58.10555

Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY



The green line shows the location along the X-Z axis of the slice shown in the X-Z plots.

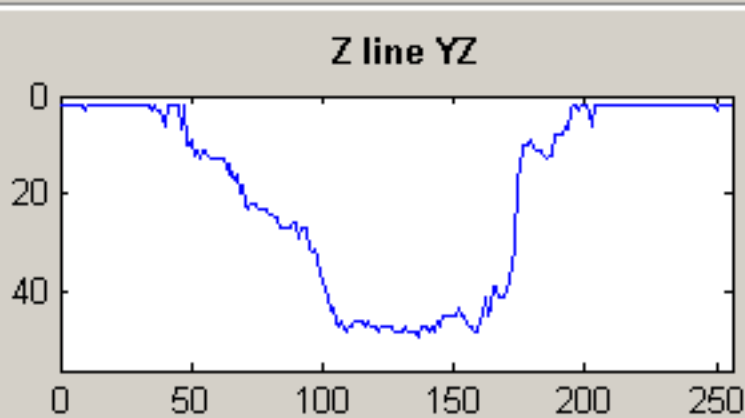
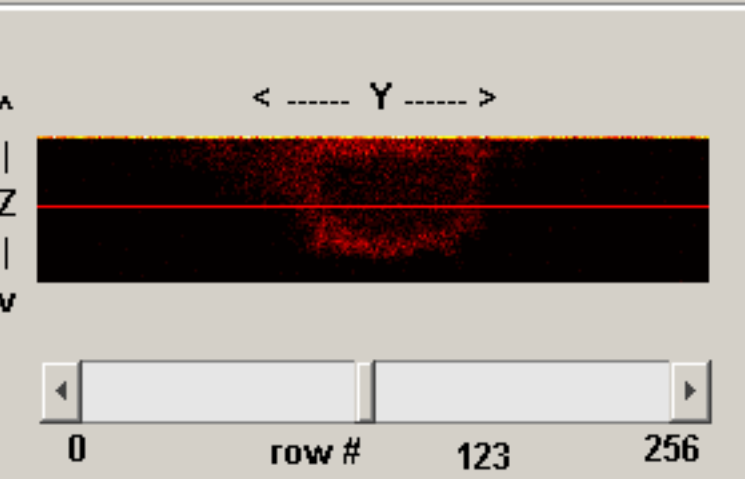
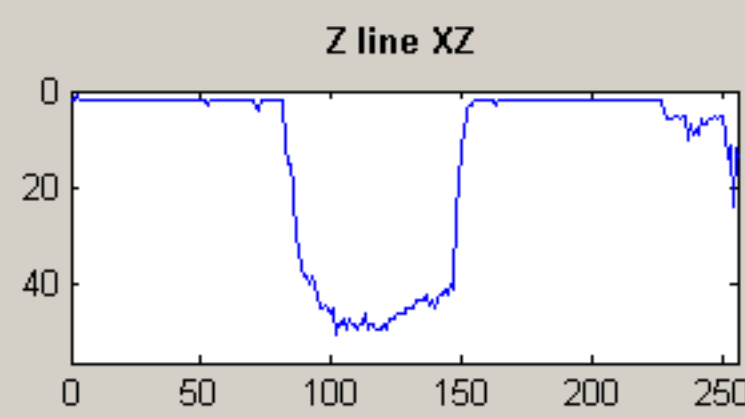
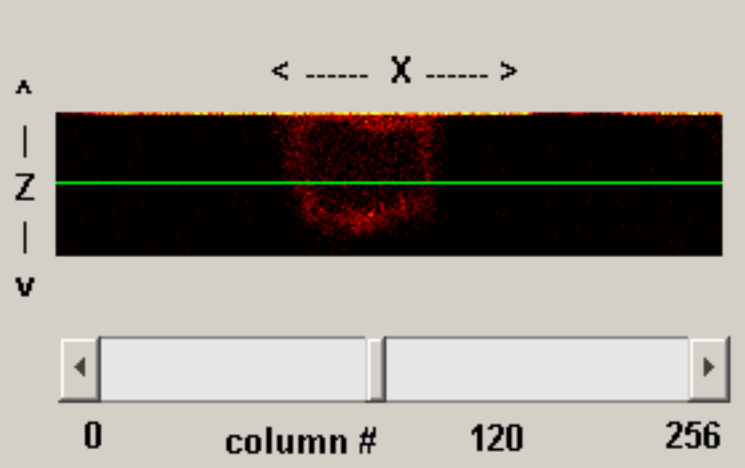
The red line shows the location along the Y-Z axis of the slice shown in the Y-Z plots.

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

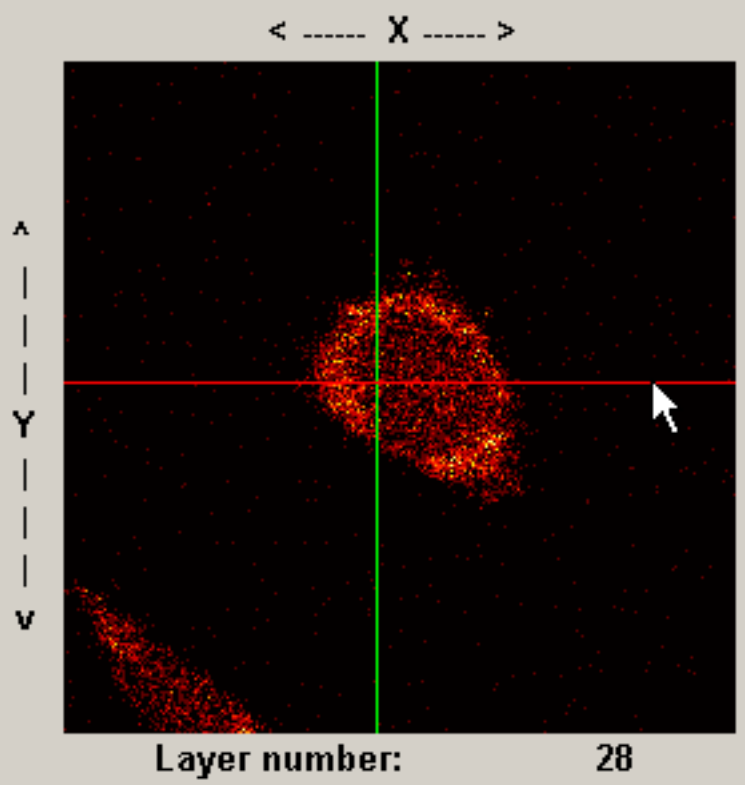
Close

Overlay Tools

3D Tools

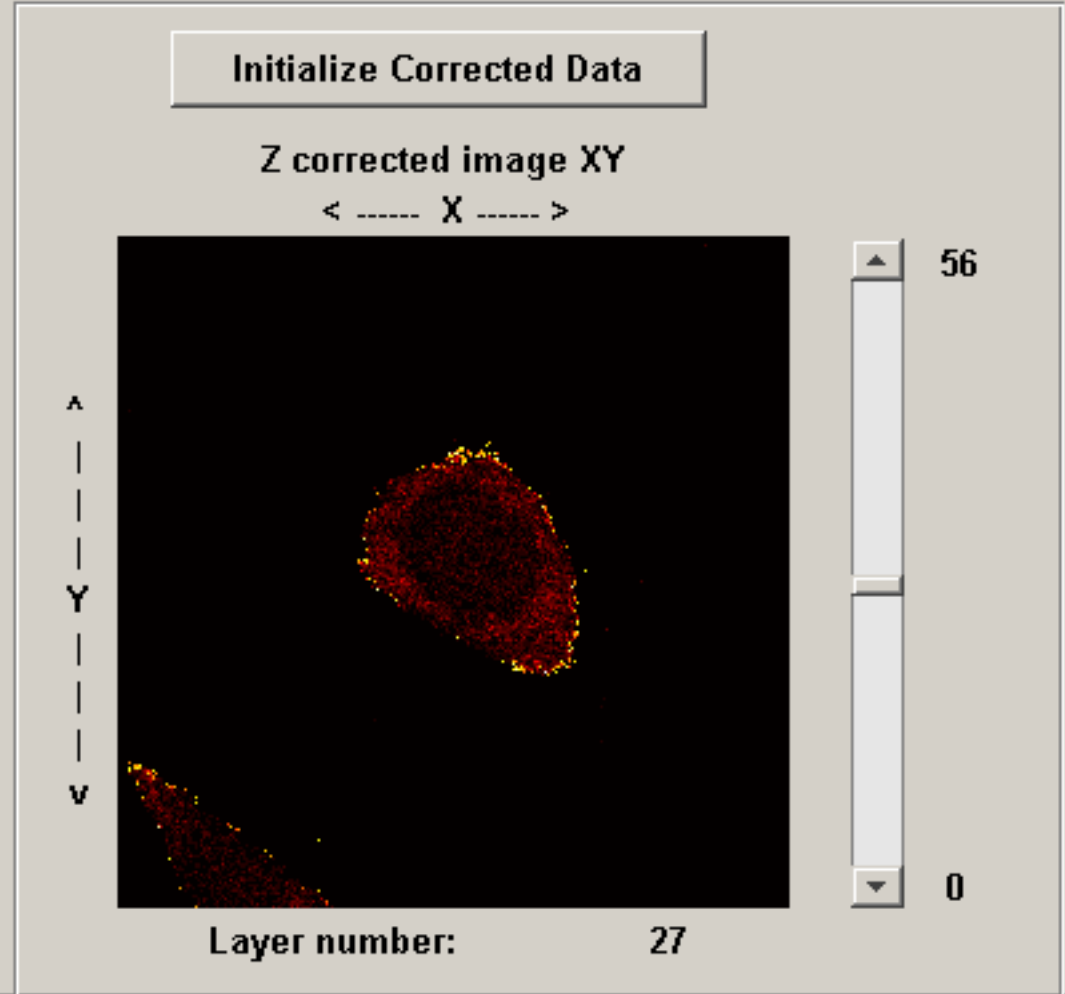
Data Being Displayed

58.10555



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

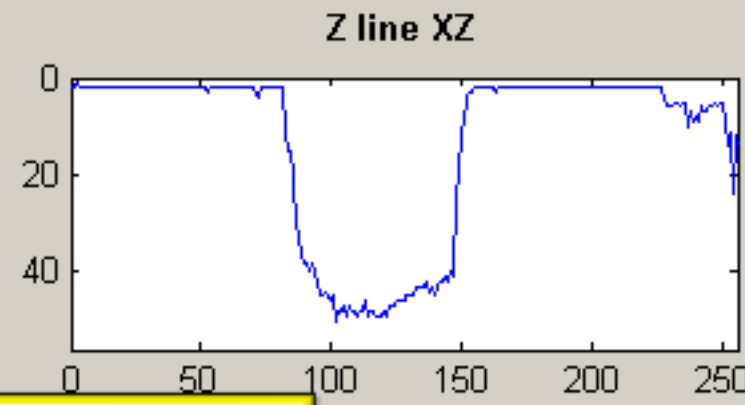
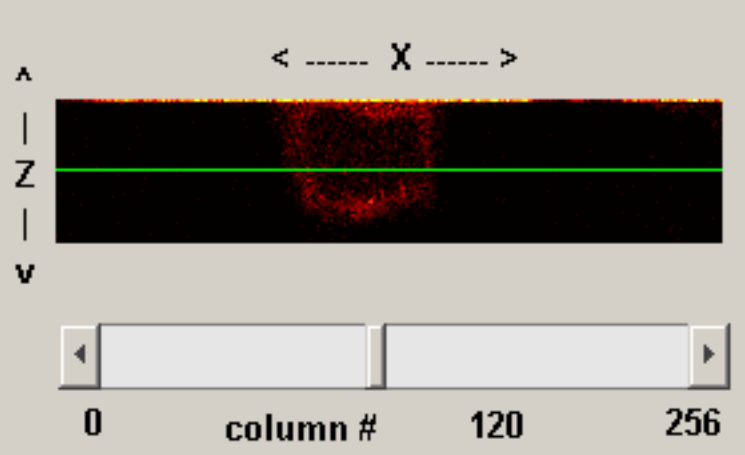


If you want to save the movie frames check this box before creating the movie.

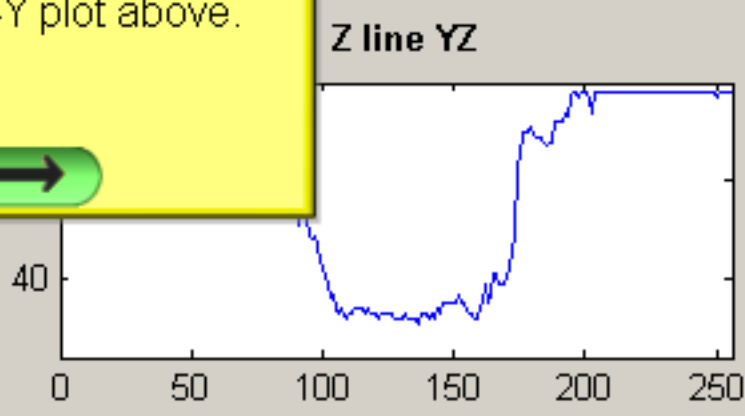
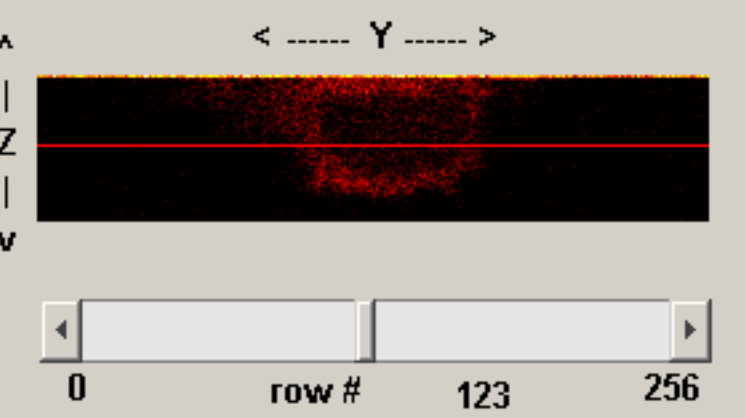
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

On these plots the lines show the location of the X-Y slice displayed in the X-Y plot above.

← →

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

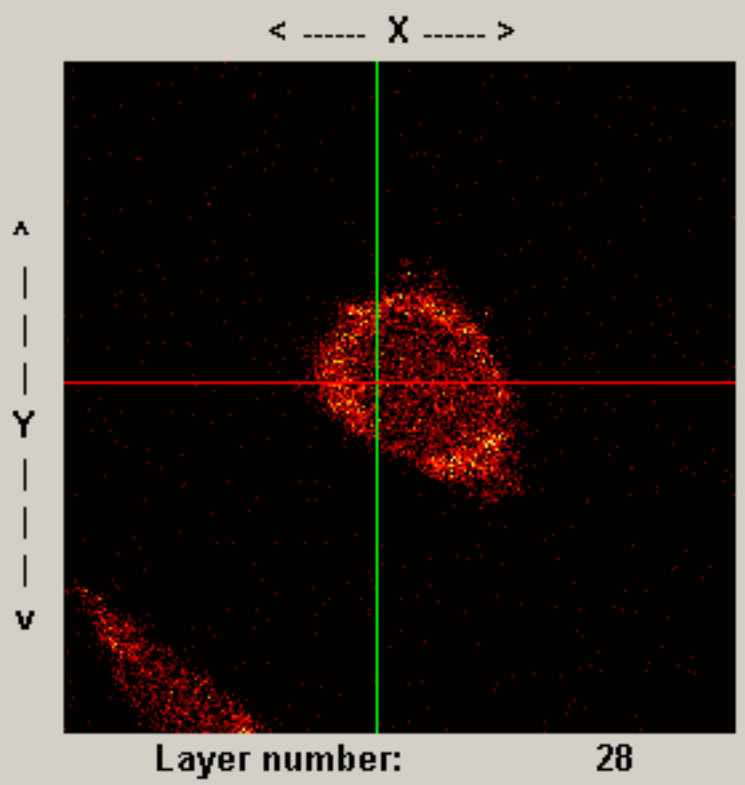
Close

Overlay Tools

3D Tools

Data Being Displayed

58.10555



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ----- Y ----- >

Layer number: 27

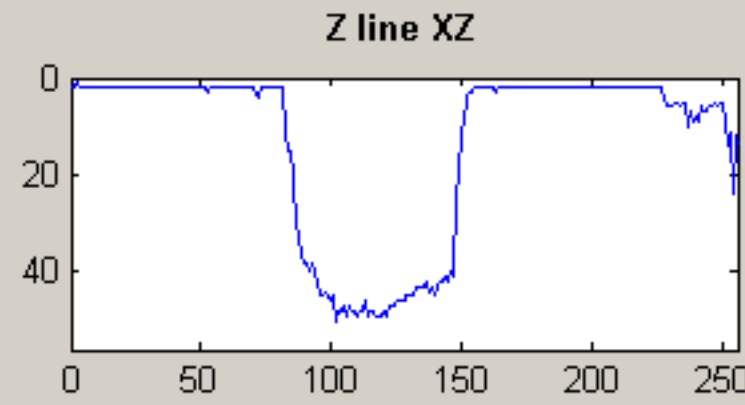
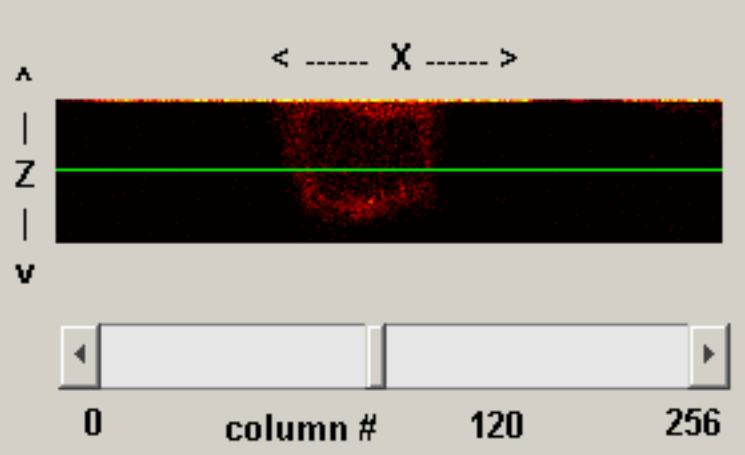
You can select multiple peaks from the list by using shift + click, or ctrl + click.

If you want to save the movie frames check this box before creating the movie.

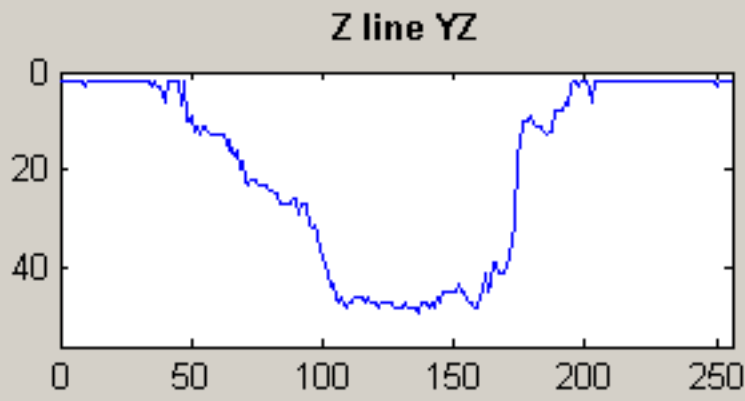
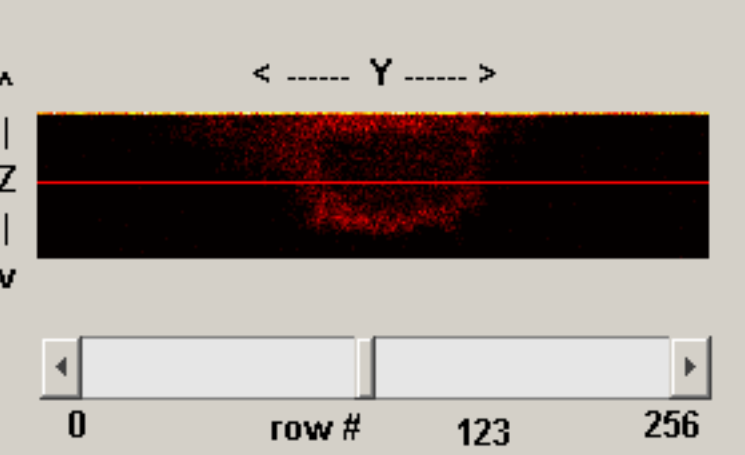
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

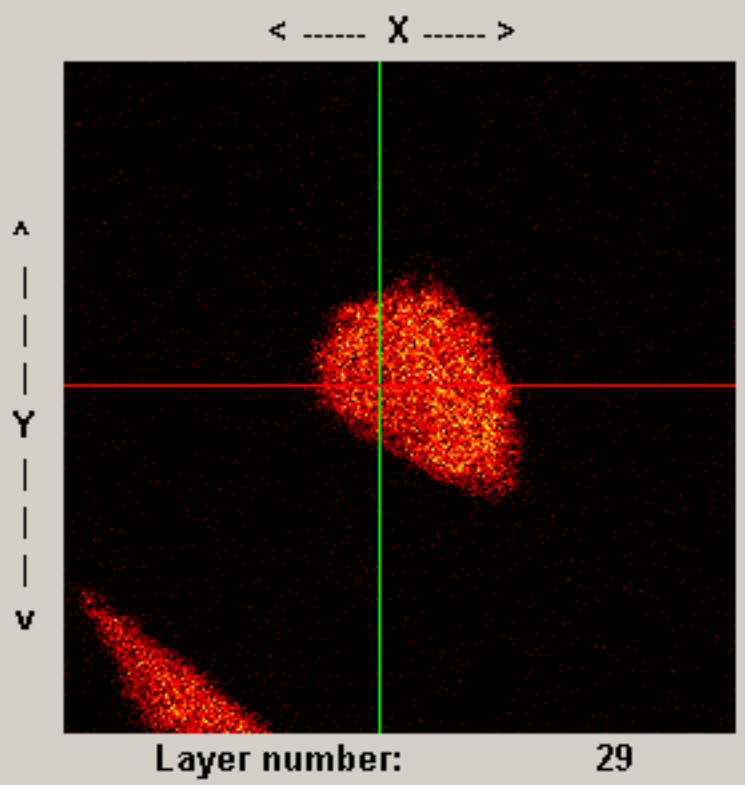
Close

Overlay Tools

3D Tools

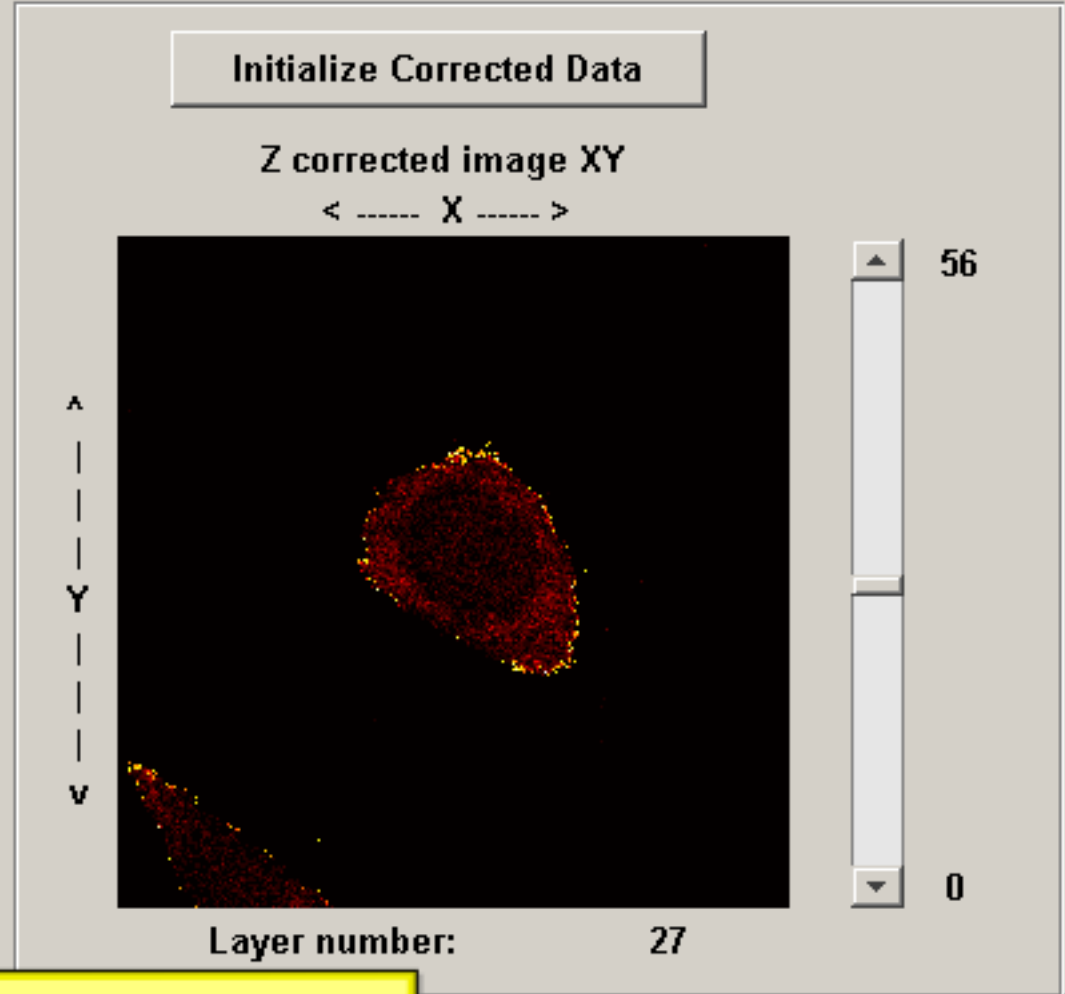
Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

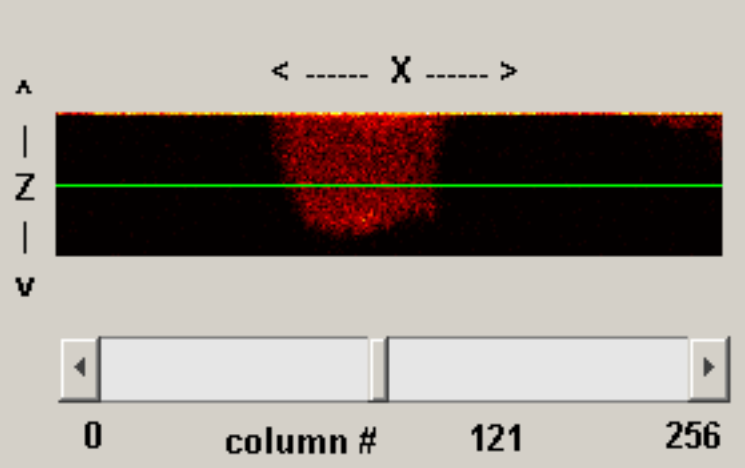


If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

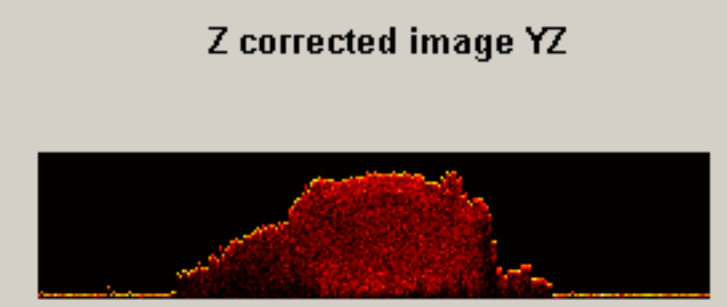
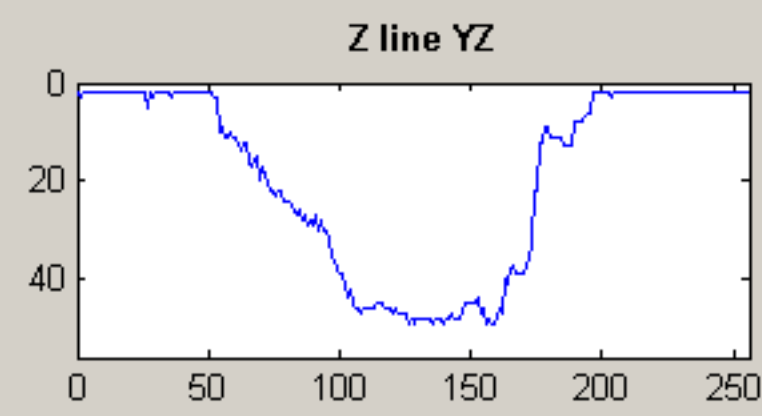
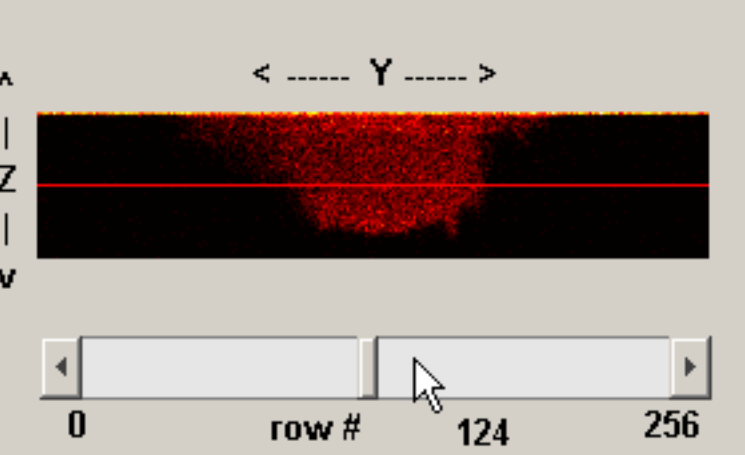
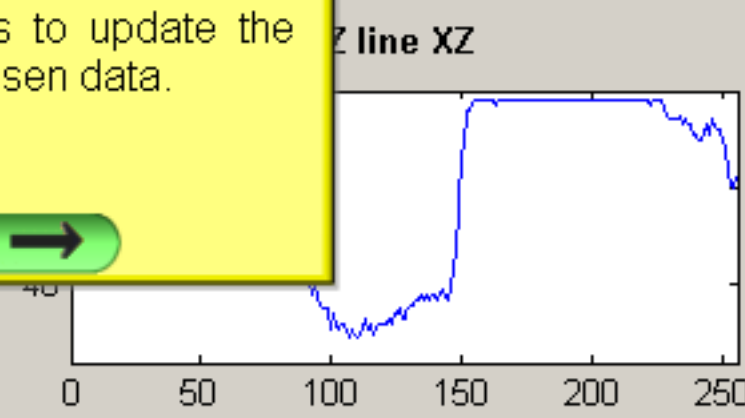
Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



You must click on the sliders to update the displays to show the newly chosen data.

← →



Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

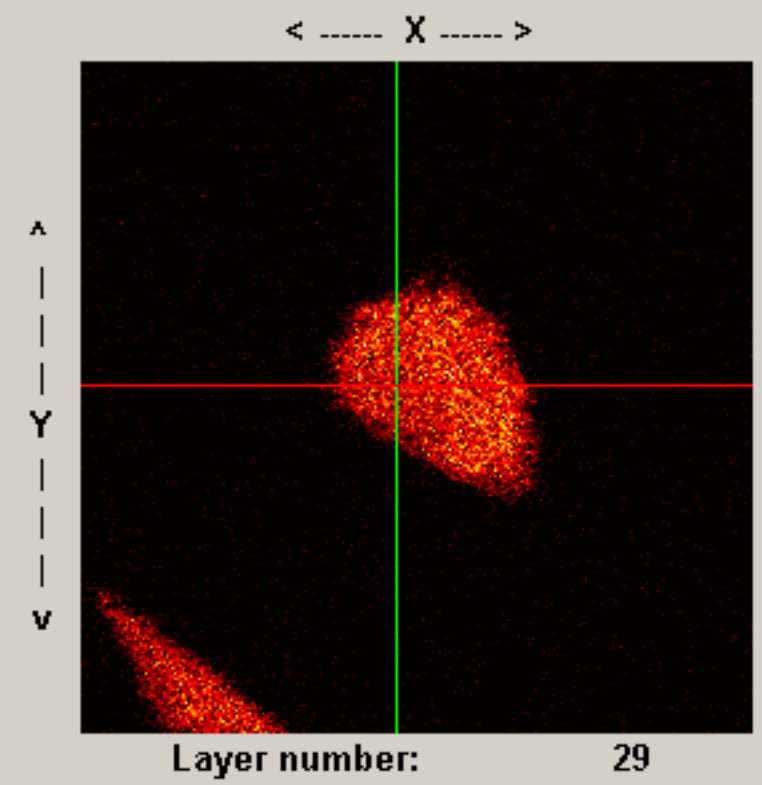
Close

Overlay Tools

3D Tools

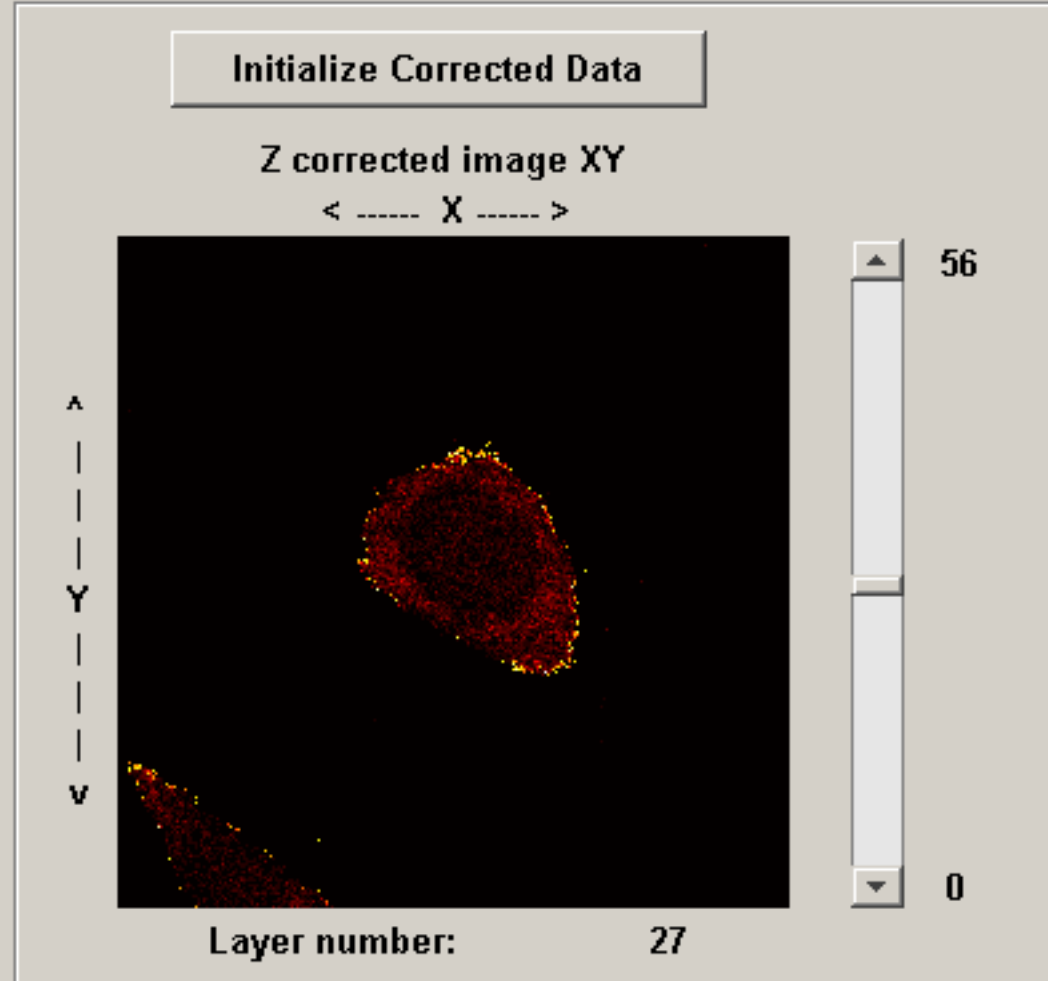
Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



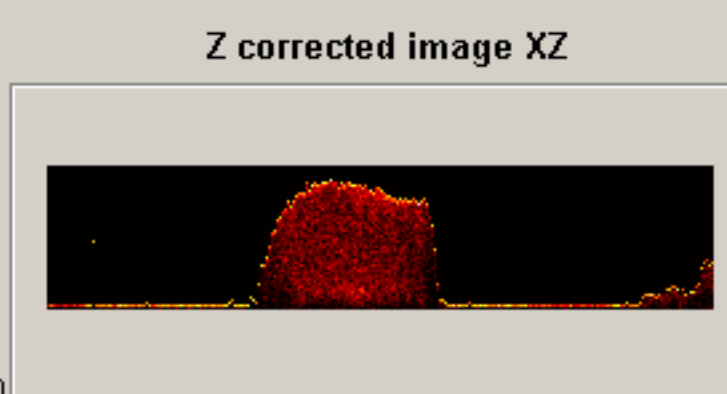
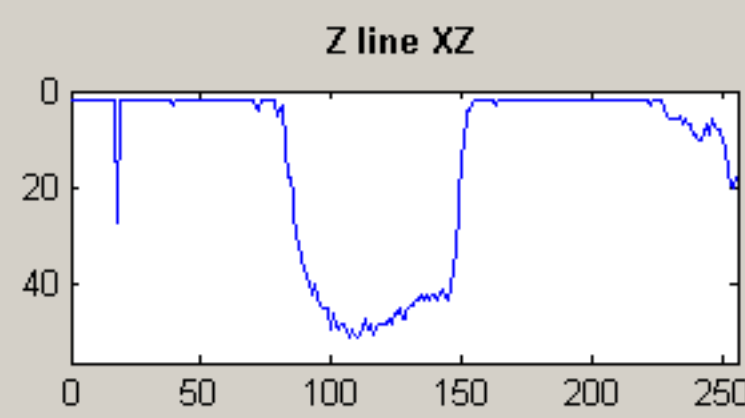
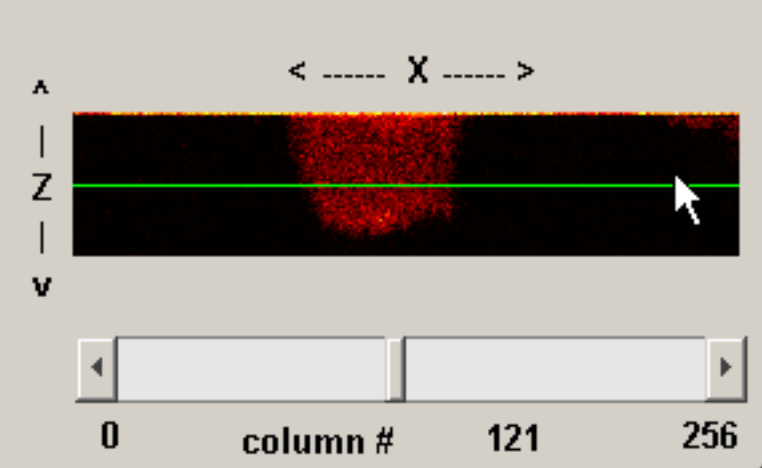
If you want to save the movie

☐ frames check this box before creating the movie.

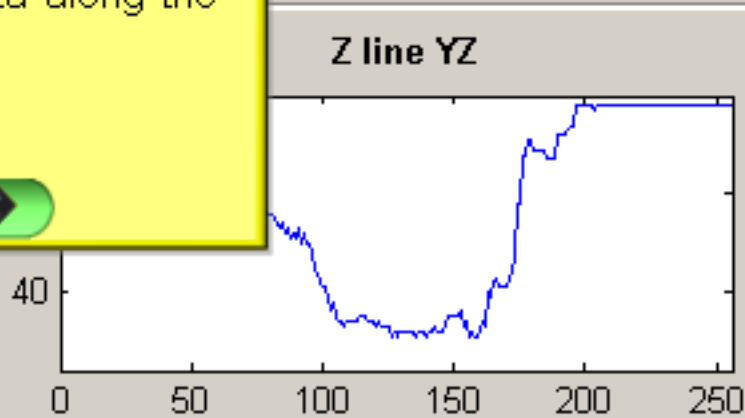
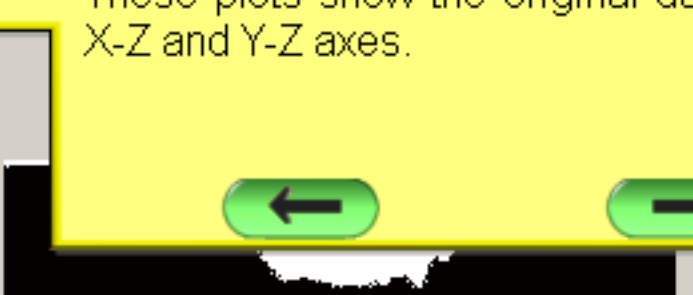
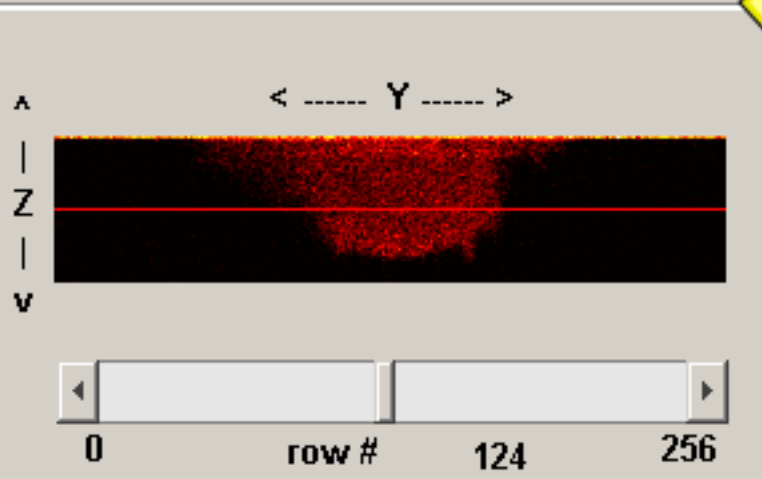
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

These plots show the original data along the X-Z and Y-Z axes.

← →

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

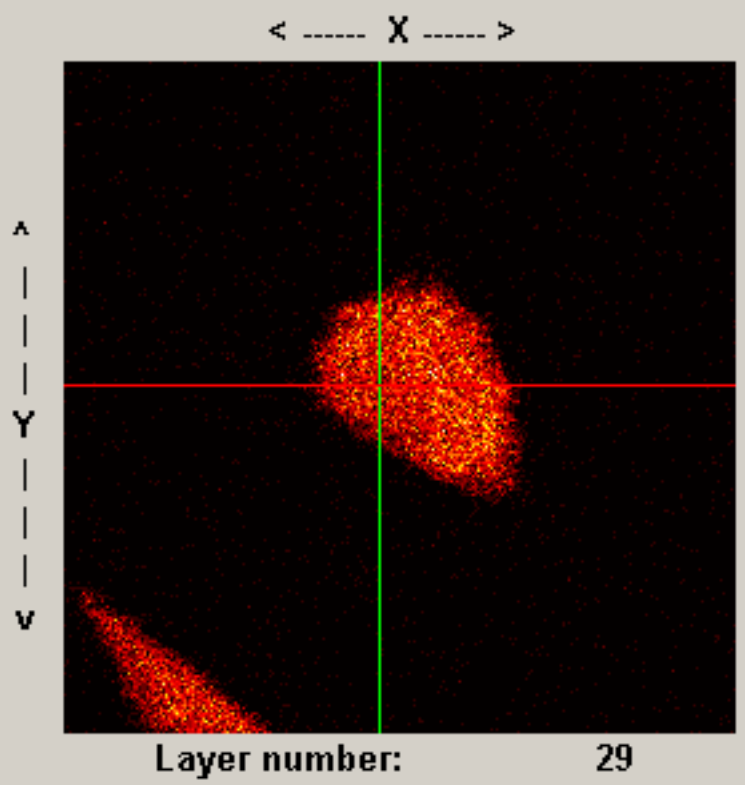
Close

Overlay Tools

3D Tools

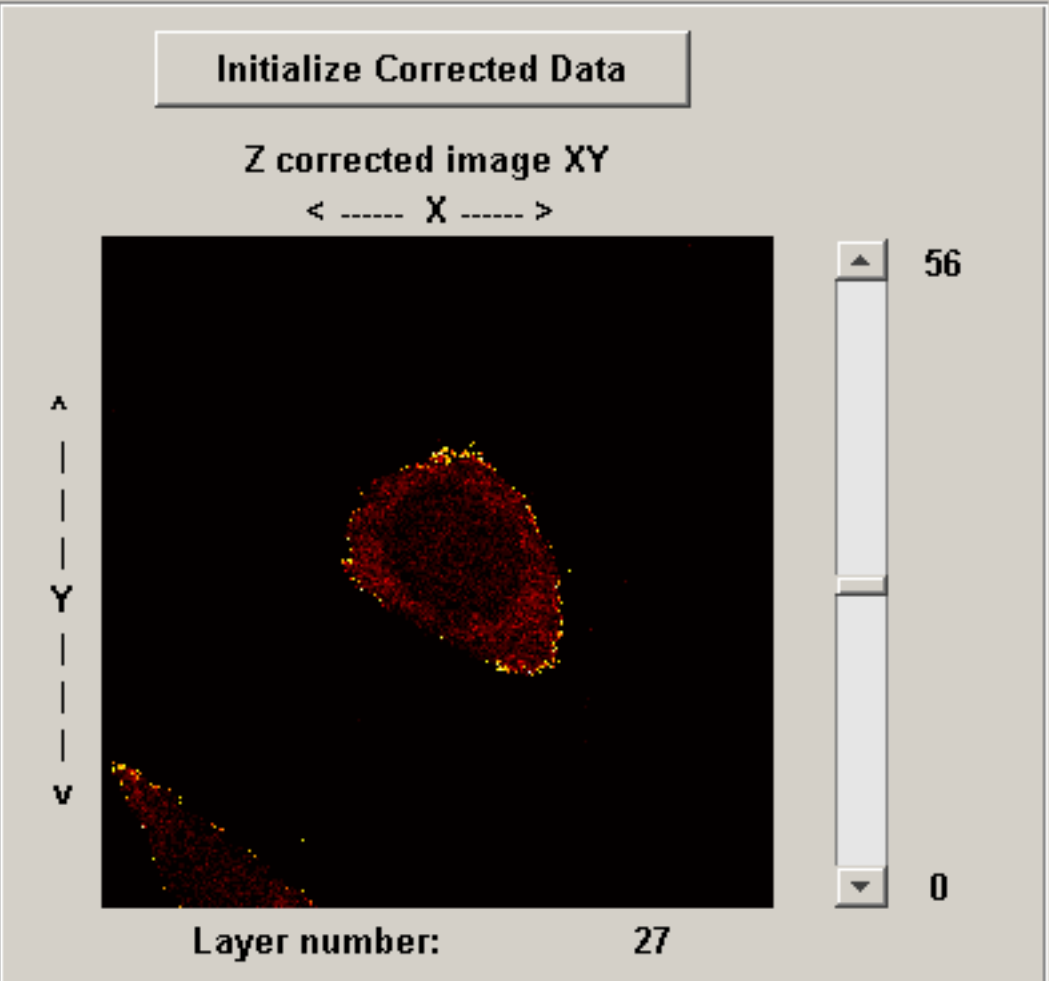
Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



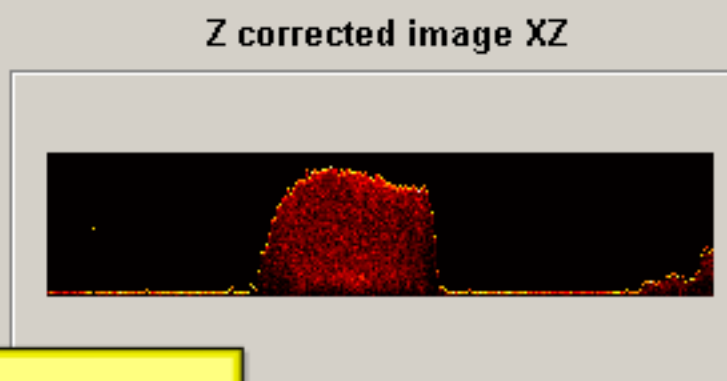
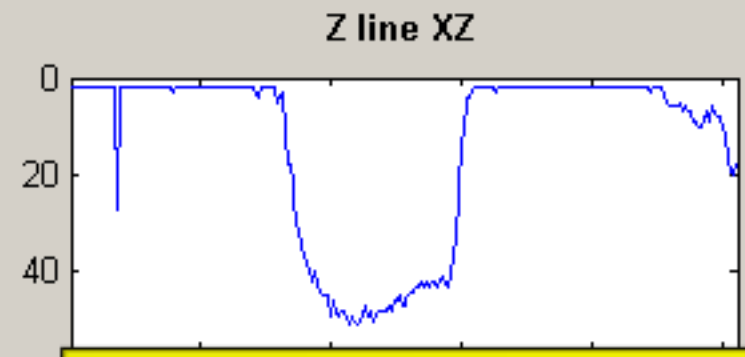
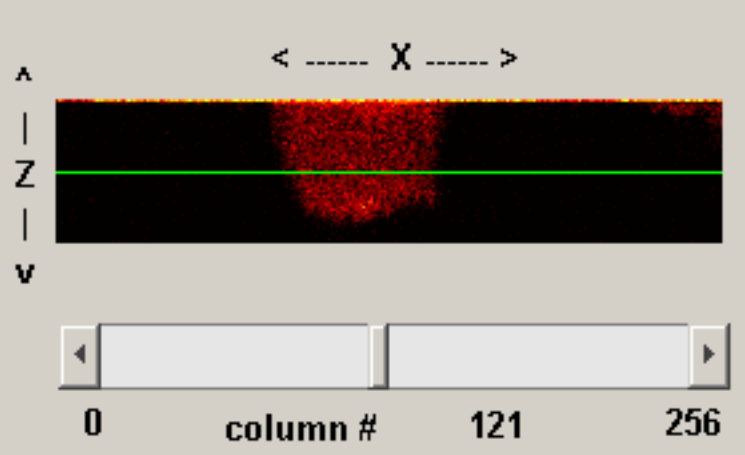
If you want to save the movie

☐ frames check this box before creating the movie.

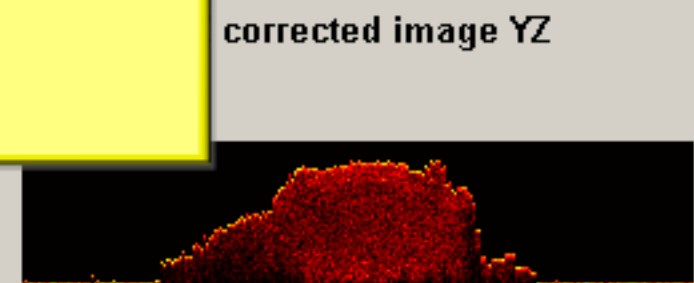
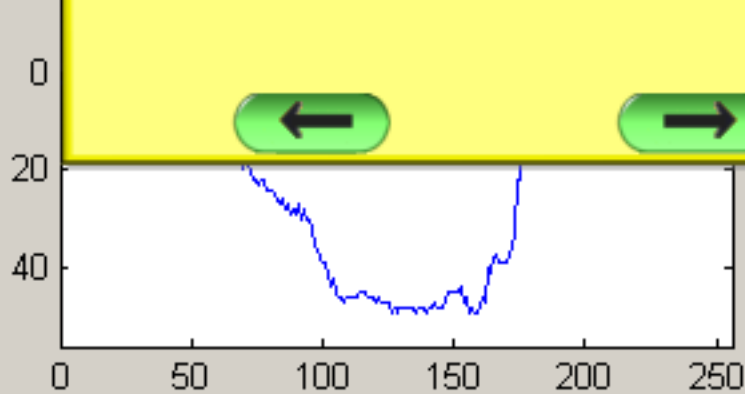
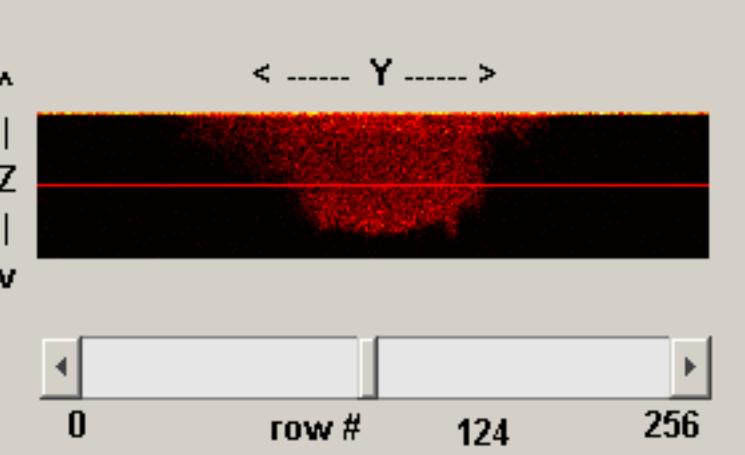
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

These plots show the thresholded total counts image for the X-Z and Y-Z axes.

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

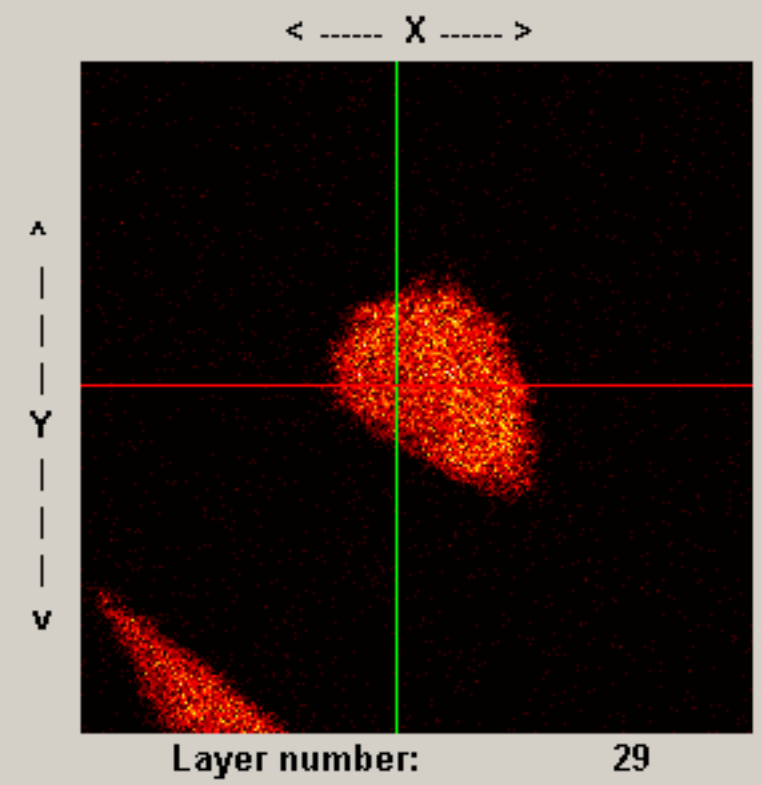
Close

Overlay Tools

3D Tools

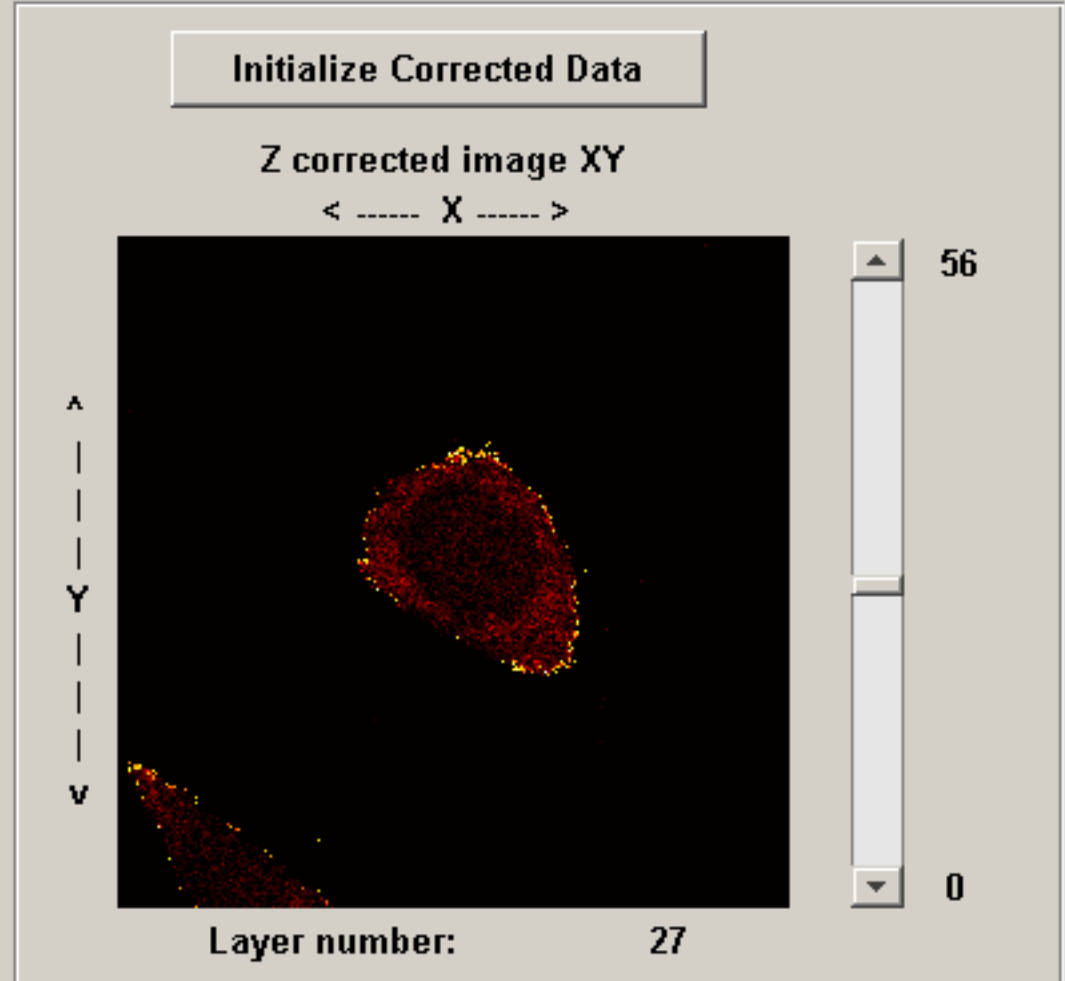
Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



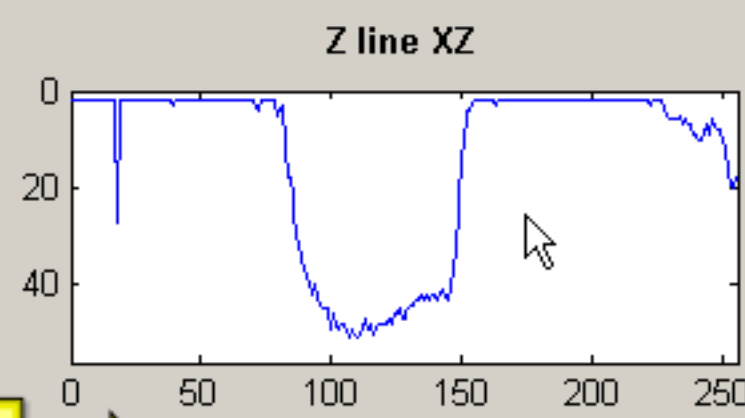
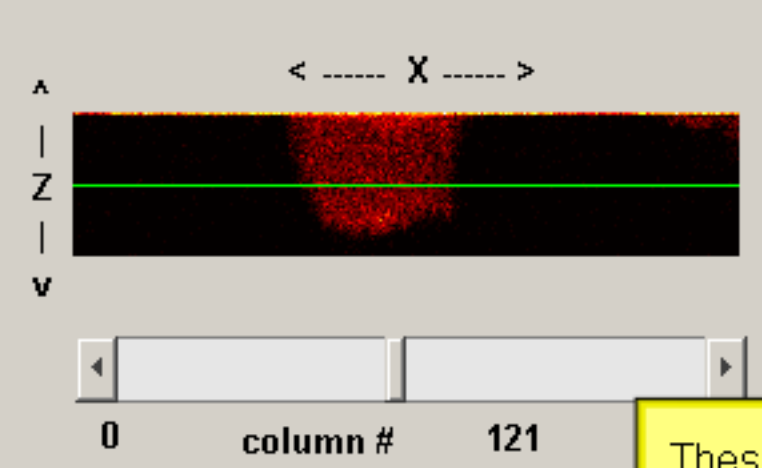
If you want to save the movie

☐ frames check this box before creating the movie.

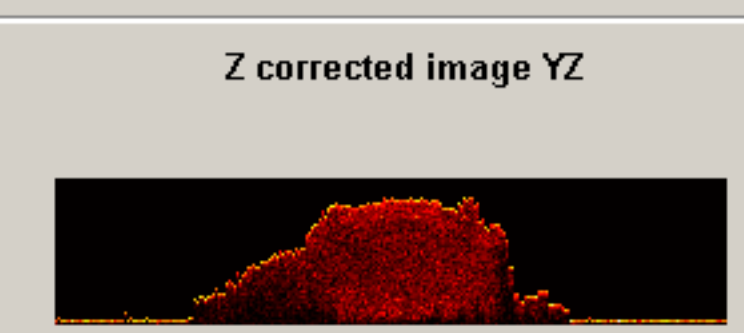
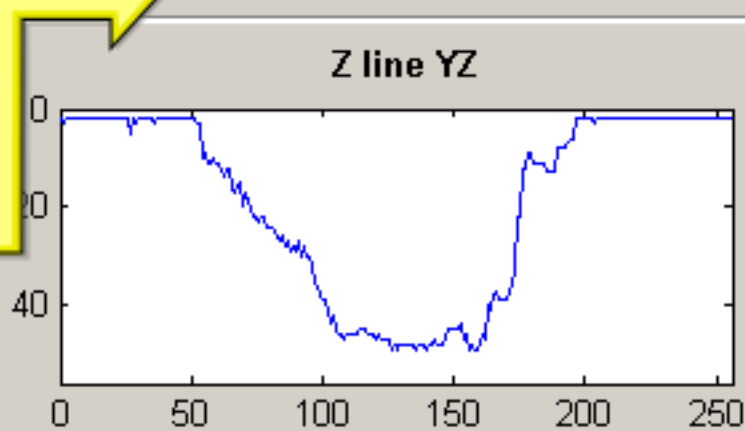
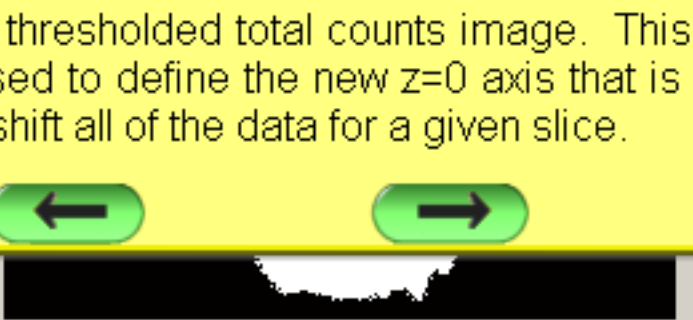
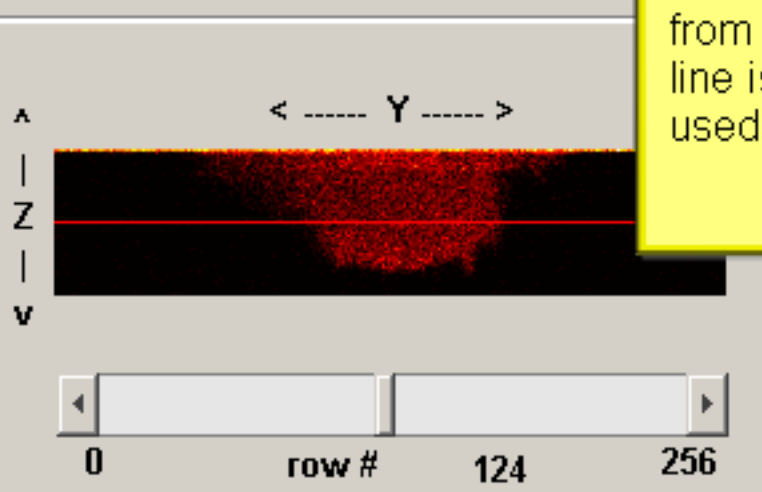
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

These plots show the new z=0 line determined from the thresholded total counts image. This line is used to define the new z=0 axis that is used to shift all of the data for a given slice.

← →

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

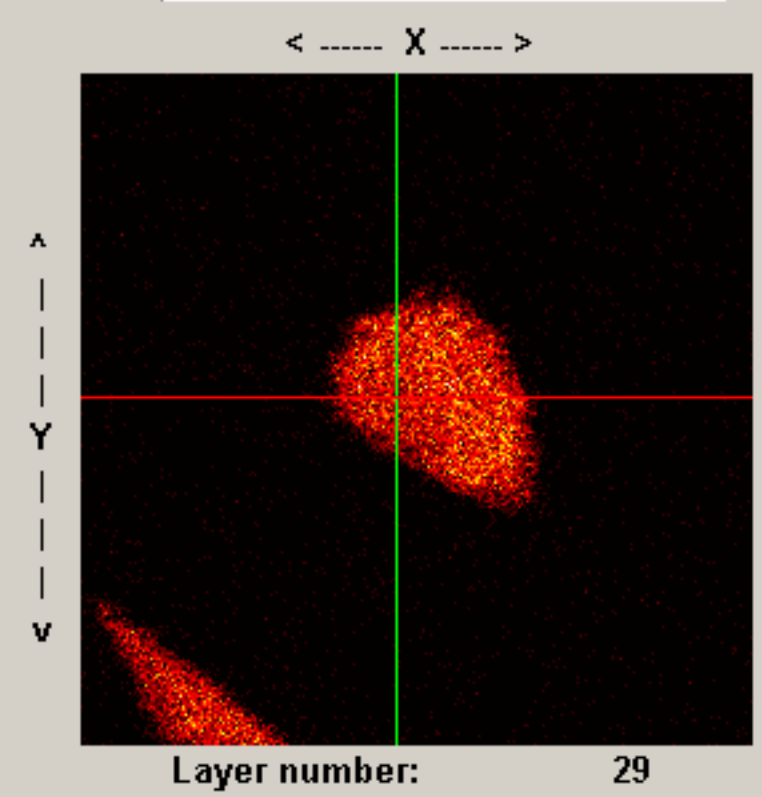
3D Tools

Initialize Corrected Data

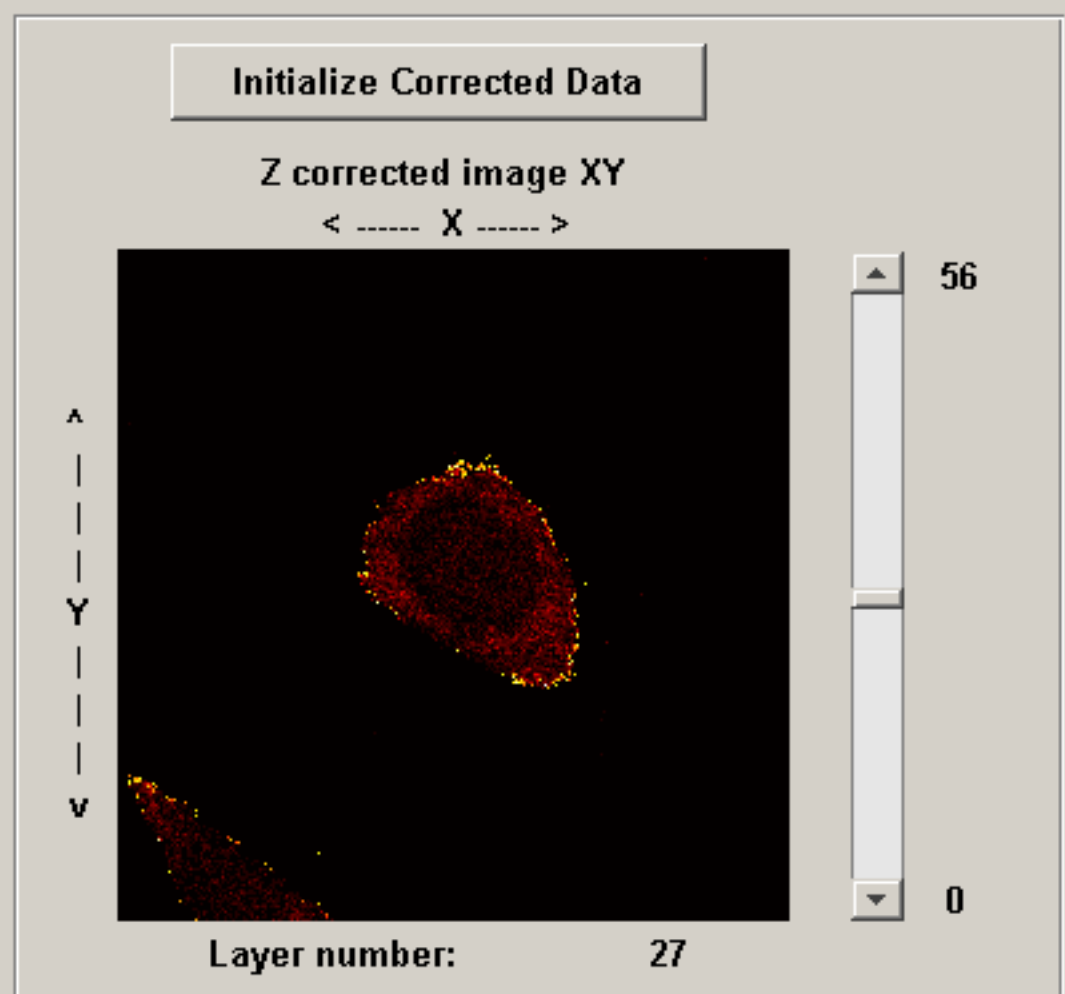
Data Being Displayed

Multiple

Peak List



Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



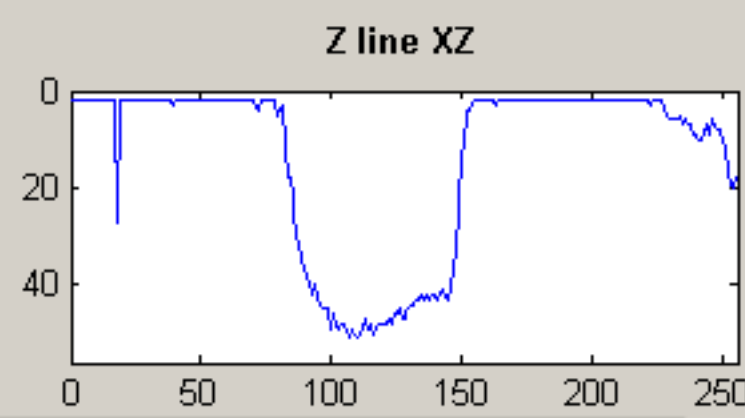
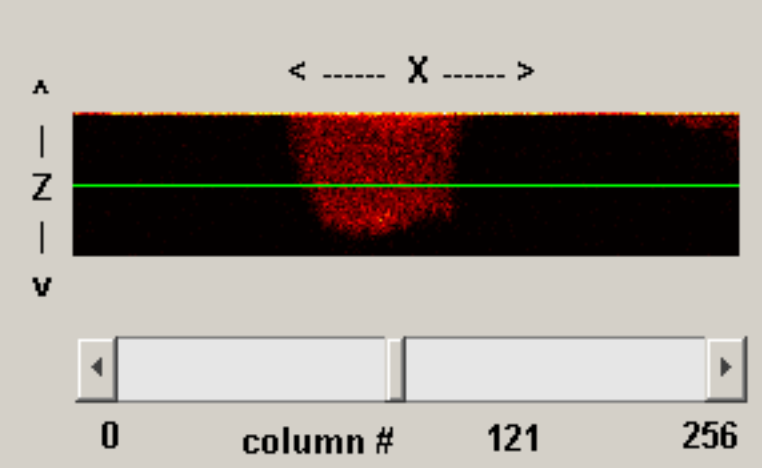
If you want to save the movie

☐ frames check this box before creating the movie.

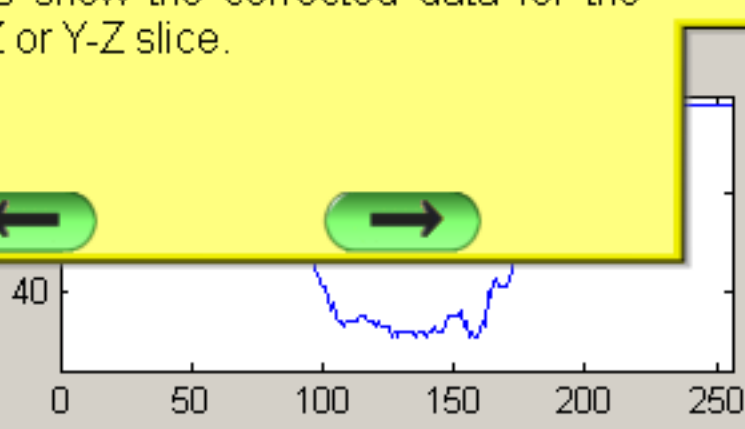
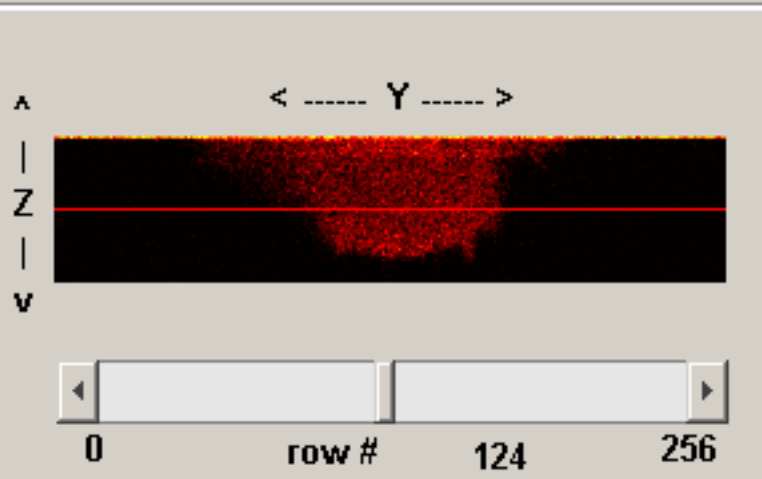
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

These plots show the corrected data for the chosen X-Z or Y-Z slice.

← →

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

Close

Overlay Tools

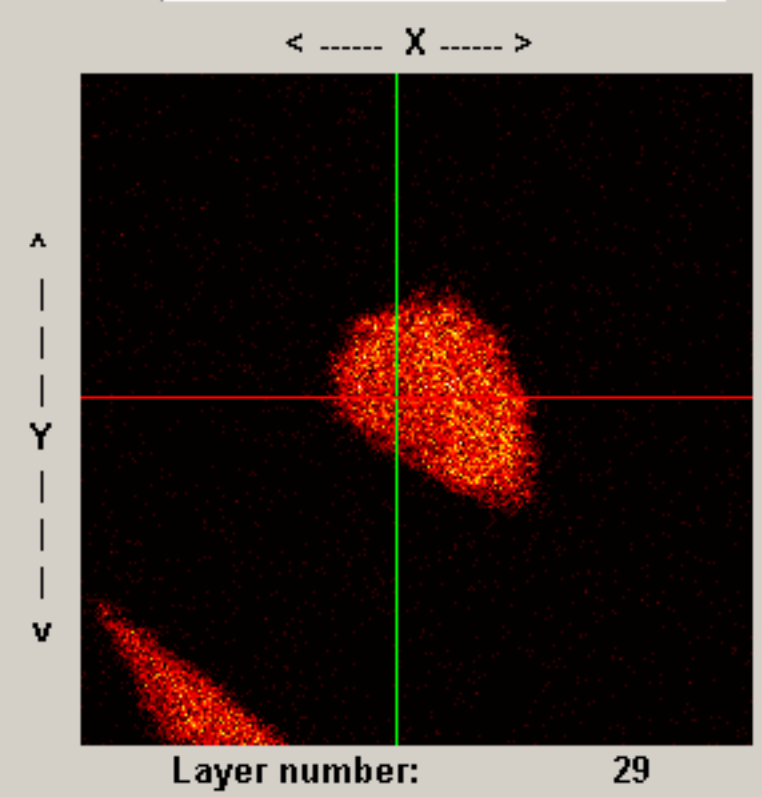
3D Tools

Initialize Corrected Data

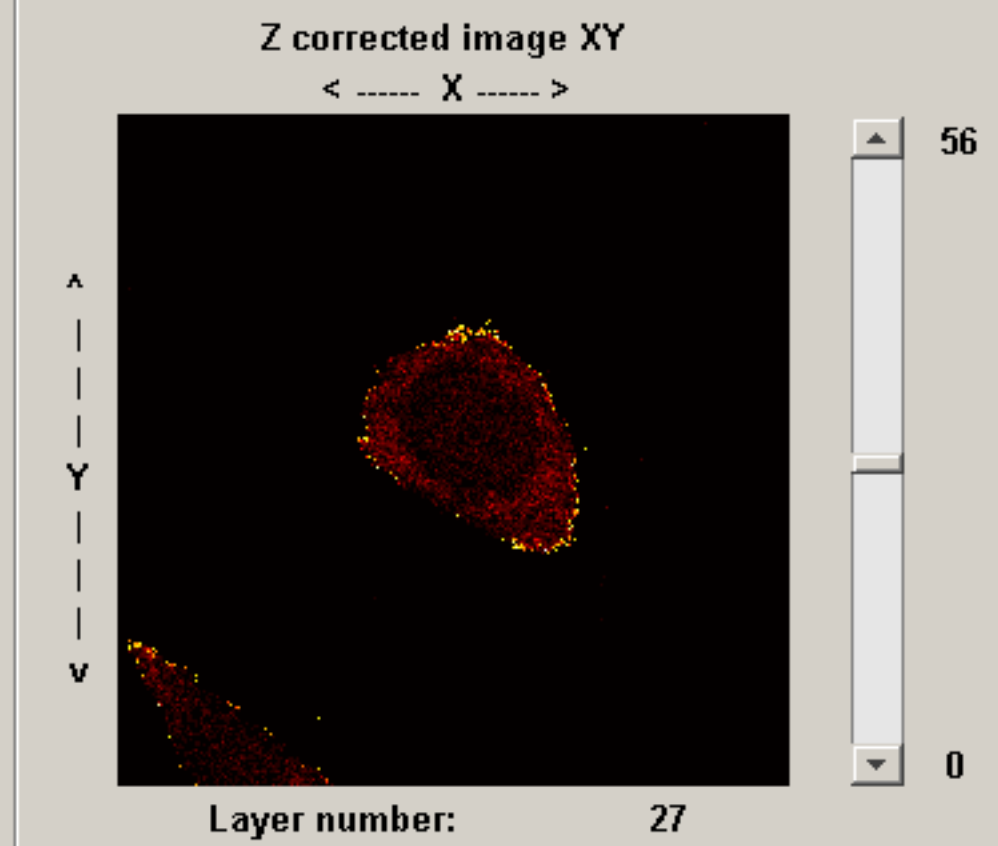
Data Being Displayed

Multiple

Peak List



Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

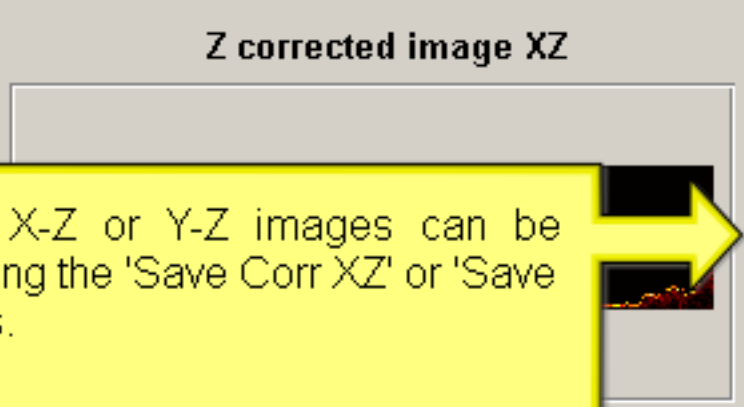
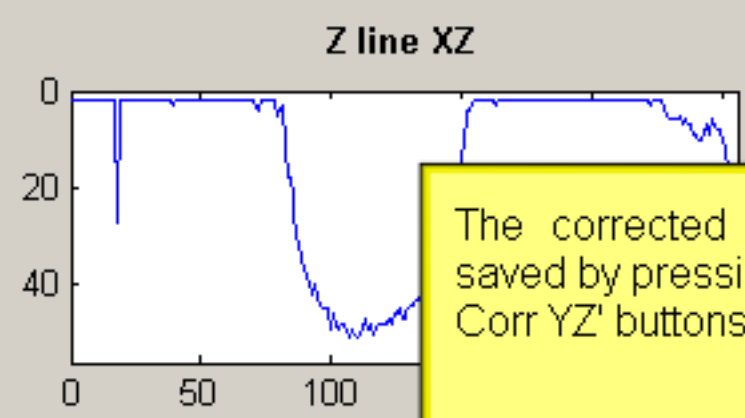
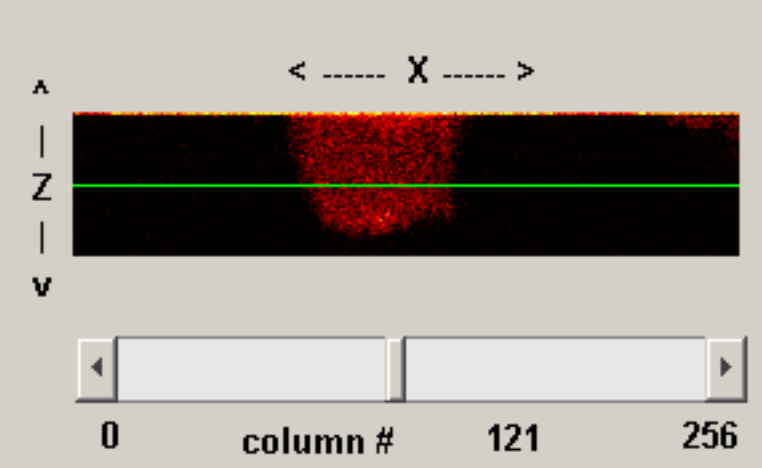


If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

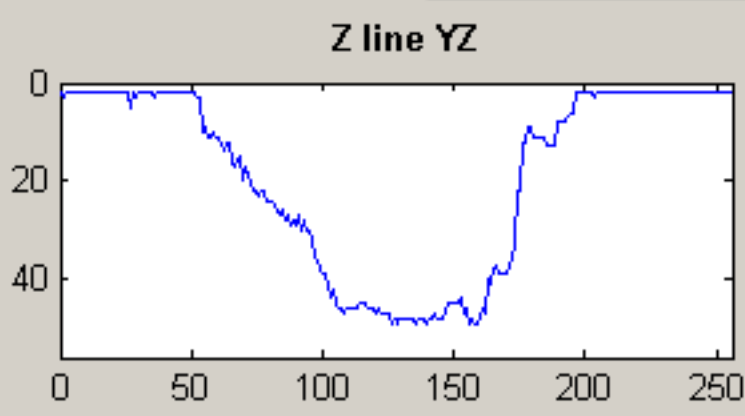
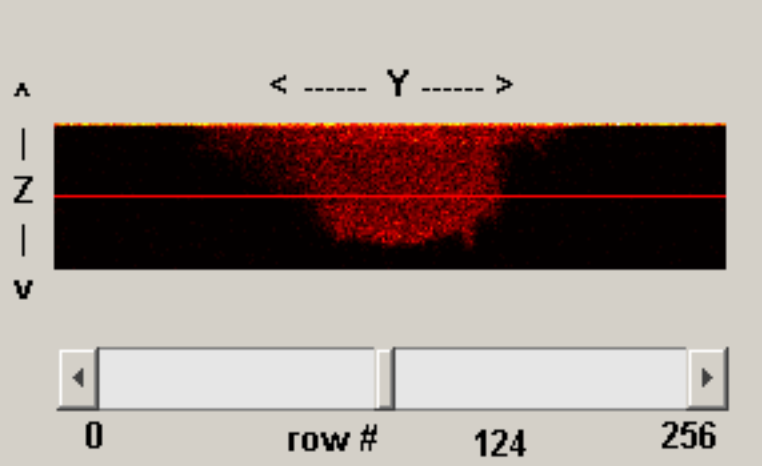
Create YZ Corr Slice Movie



Save Corr XZ

The corrected X-Z or Y-Z images can be saved by pressing the 'Save Corr XZ' or 'Save Corr YZ' buttons.

← →



Save Corr YZ

Save picture as

Save in: work

frames

My Recent Documents



Desktop



My Documents



My Computer



My Network Places

File name:

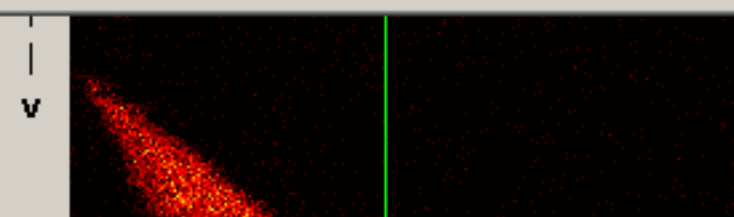
XZslice

Save

Save as type:

jpeg (*.jpg)

Cancel



Layer number:

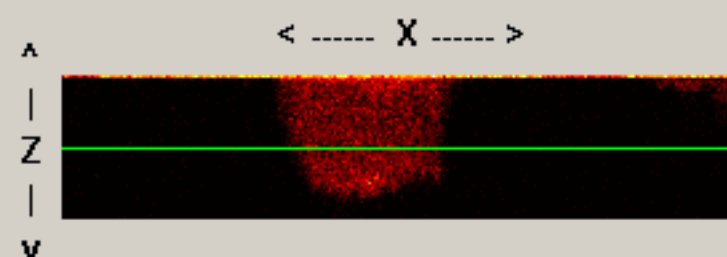
29



0



Thresholded total counts XZ



0

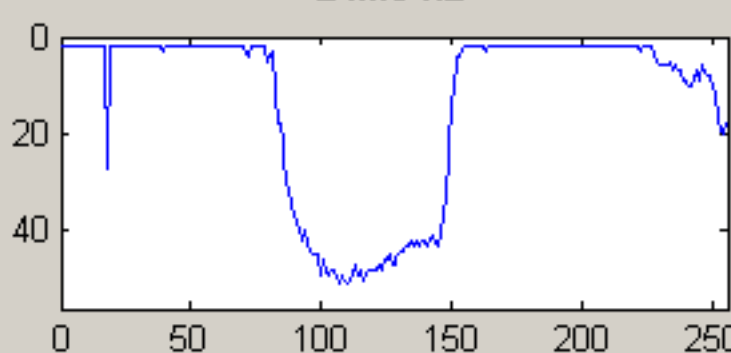
column #

121

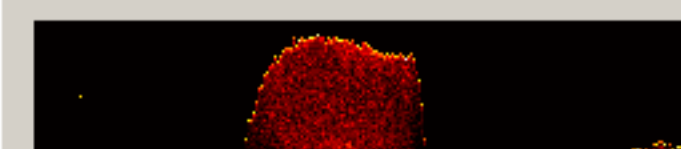
256



Z line XZ

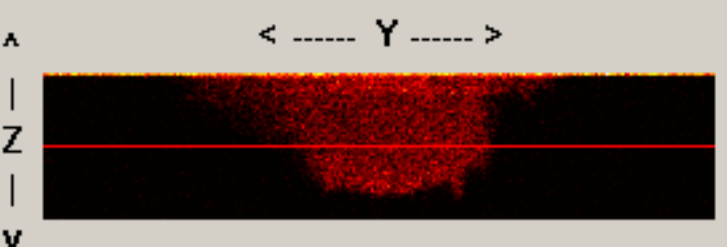


Z corrected image XZ



Save Corr XZ

Thresholded total counts YZ



0

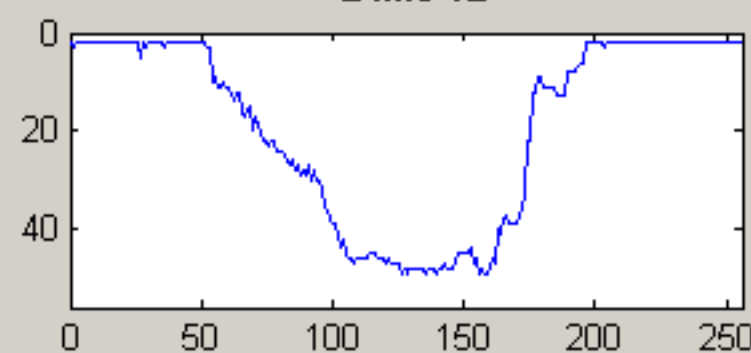
row #

124

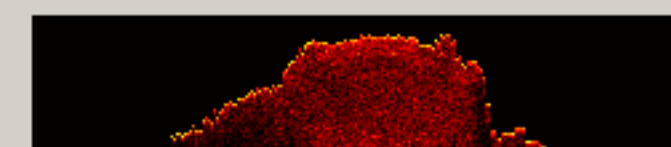
256



Z line YZ



Z corrected image YZ



Save Corr YZ

Adjust Total Counts Threshold Value

Close

☐ Work with Uncorrected Data

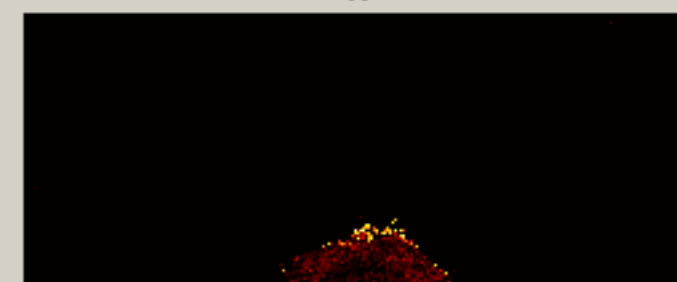
Overlay Tools

3D Tools

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >



56

A

V

Select a location to save the file and give it a name. Then press the 'Save' button.



Layer number:

27

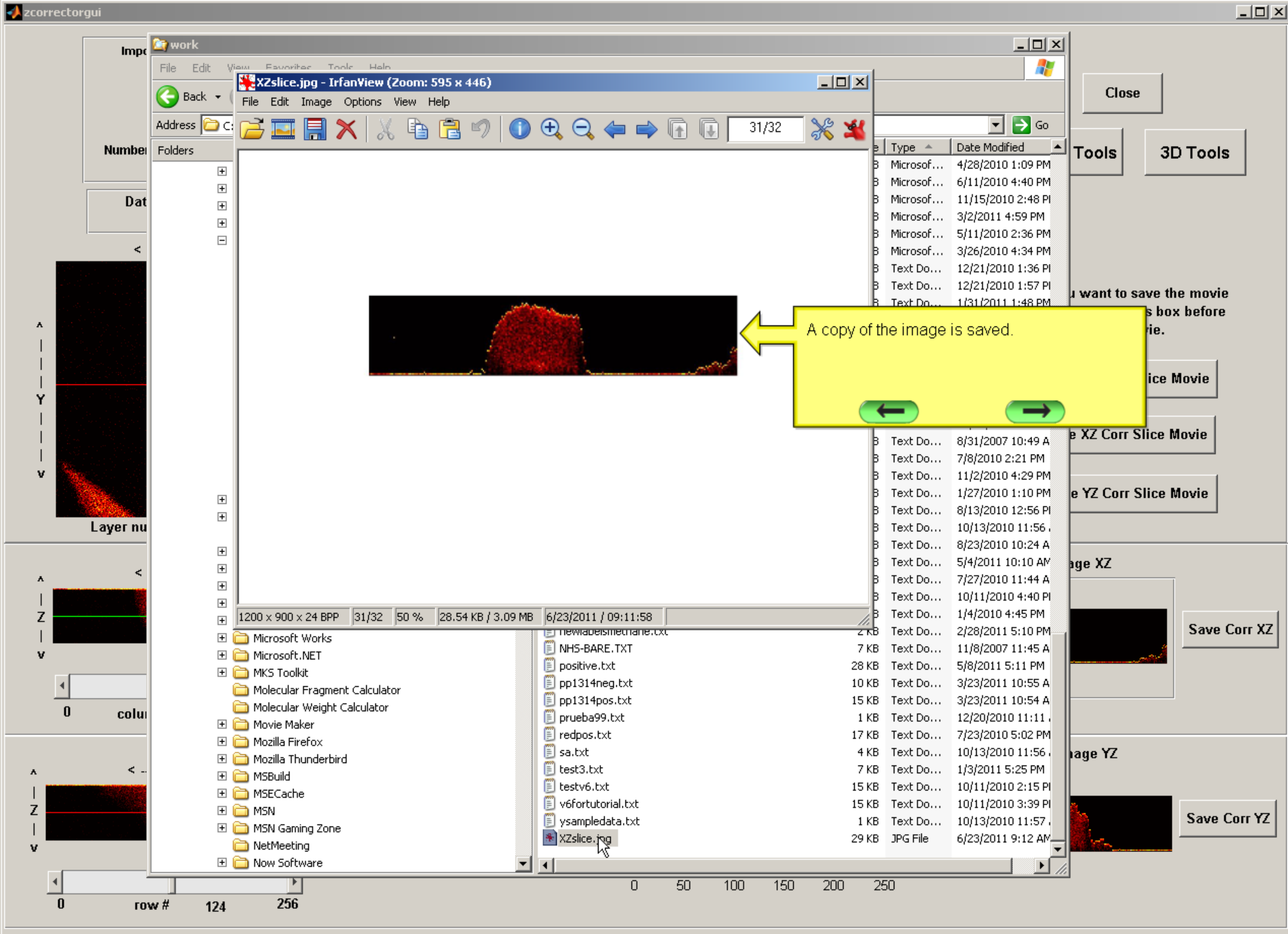
0

☐ If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



A copy of the image is saved.



Type	Date Modified
Microsoft...	4/28/2010 1:09 PM
Microsoft...	6/11/2010 4:40 PM
Microsoft...	11/15/2010 2:48 PM
Microsoft...	3/2/2011 4:59 PM
Microsoft...	5/11/2010 2:36 PM
Microsoft...	3/26/2010 4:34 PM
Text Document	12/21/2010 1:36 PM
Text Document	12/21/2010 1:57 PM
Text Document	1/31/2011 1:48 PM
Text Document	8/31/2007 10:49 AM
Text Document	7/8/2010 2:21 PM
Text Document	11/2/2010 4:29 PM
Text Document	1/27/2010 1:10 PM
Text Document	8/13/2010 12:56 PM
Text Document	10/13/2010 11:56 AM
Text Document	8/23/2010 10:24 AM
Text Document	5/4/2011 10:10 AM
Text Document	7/27/2010 11:44 AM
Text Document	10/11/2010 4:40 PM
Text Document	1/4/2010 4:45 PM
Text Document	2/28/2011 5:10 PM
Text Document	11/8/2007 11:45 AM
Text Document	5/8/2011 5:11 PM
Text Document	3/23/2011 10:55 AM
Text Document	3/23/2011 10:54 AM
Text Document	12/20/2010 11:11 AM
Text Document	7/23/2010 5:02 PM
Text Document	10/13/2010 11:56 AM
Text Document	1/3/2011 5:25 PM
Text Document	10/11/2010 2:15 PM
Text Document	10/11/2010 3:39 PM
Text Document	10/13/2010 11:57 AM
JPG File	6/23/2011 9:12 AM

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

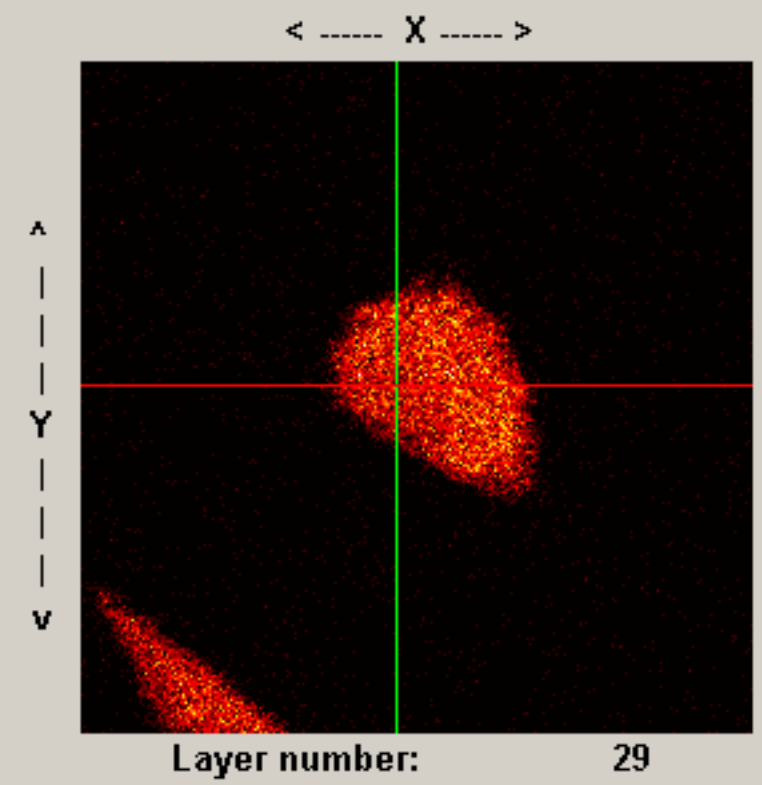
Close

Overlay Tools

3D Tools

Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >

Layer number: 27

A movie viewing sequential slices through X-Y, X-Z or Y-Z can be made by using these buttons.

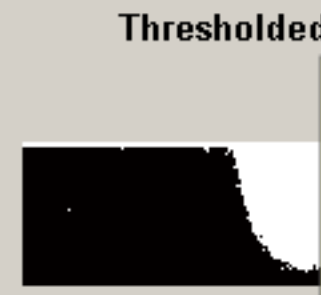
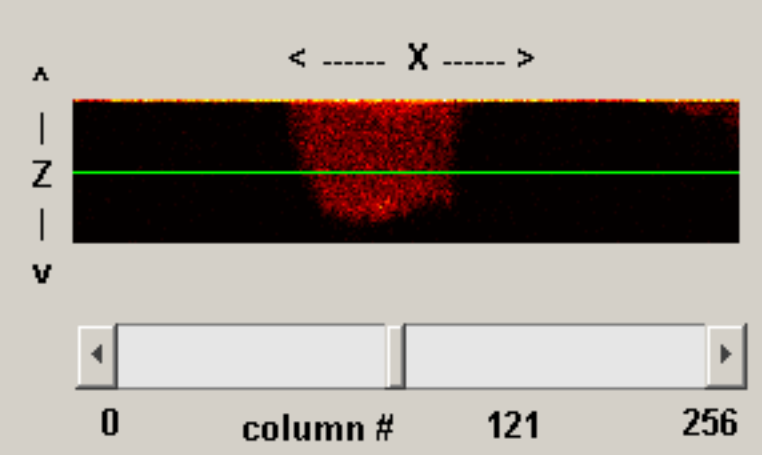
← →

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

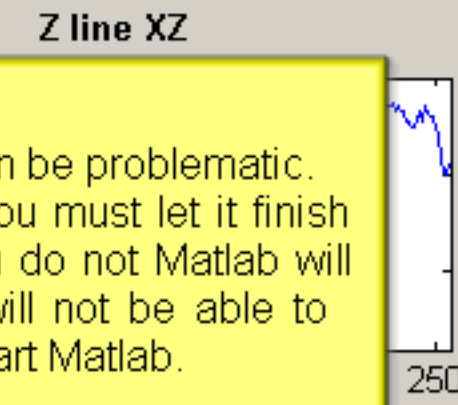
Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

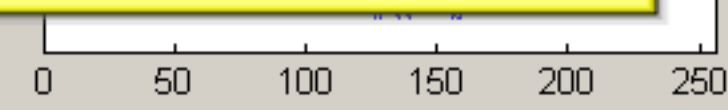
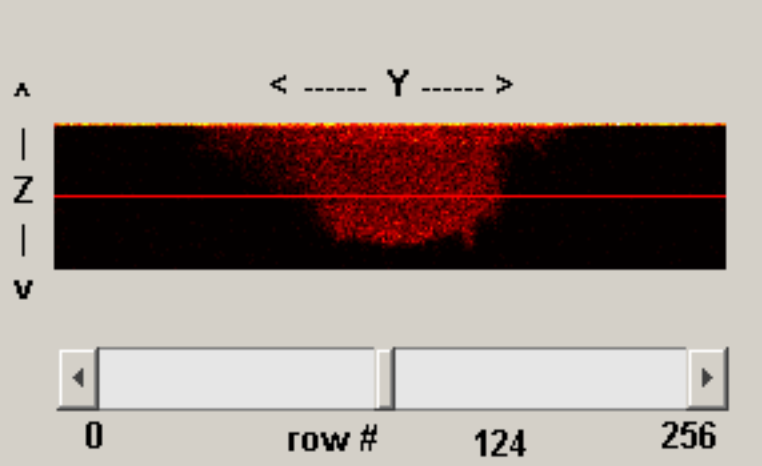


NOTE:
Matlab's movie making function can be problematic. Once you start making a movie you must let it finish and you must save the file. If you do not Matlab will probably give an error and you will not be able to create another movie until you restart Matlab.

I am exploring how to avoid this, but haven't figured it out yet.



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

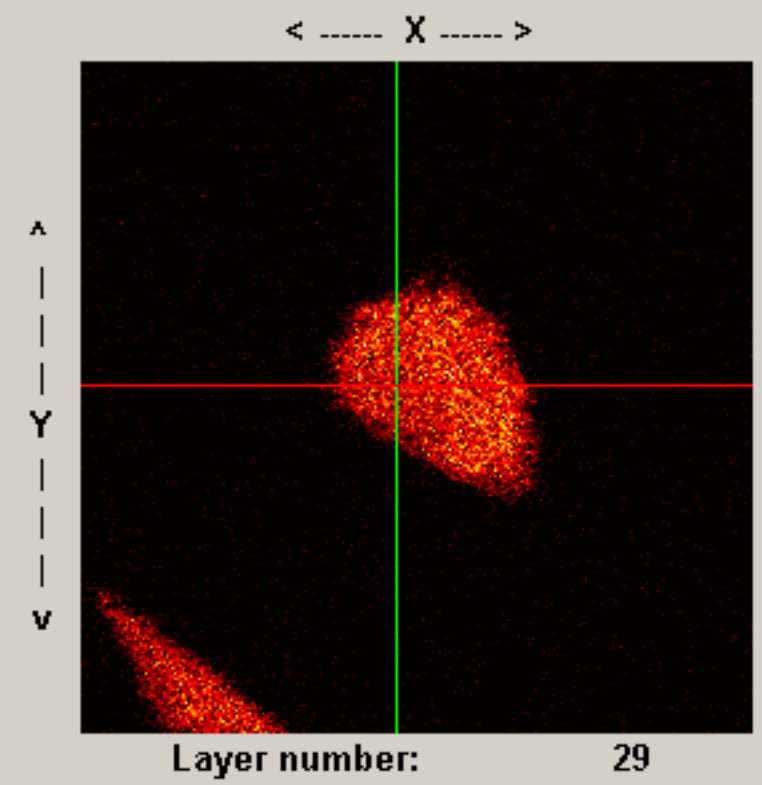
Close

Overlay Tools

3D Tools

Data Being Displayed

Multiple

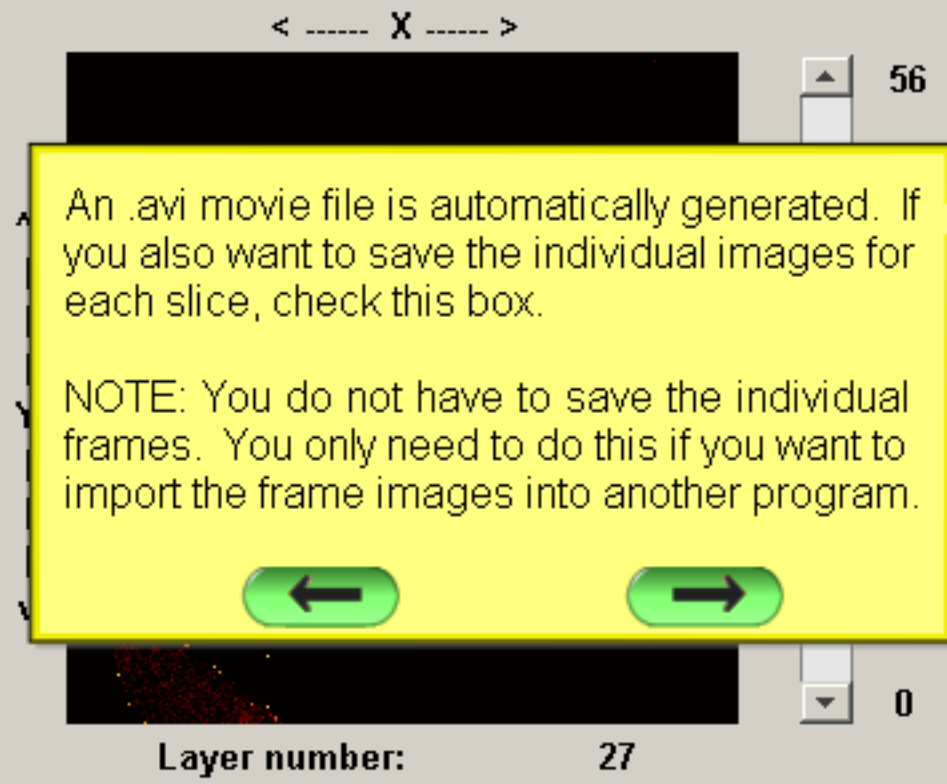


Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY



An .avi movie file is automatically generated. If you also want to save the individual images for each slice, check this box.

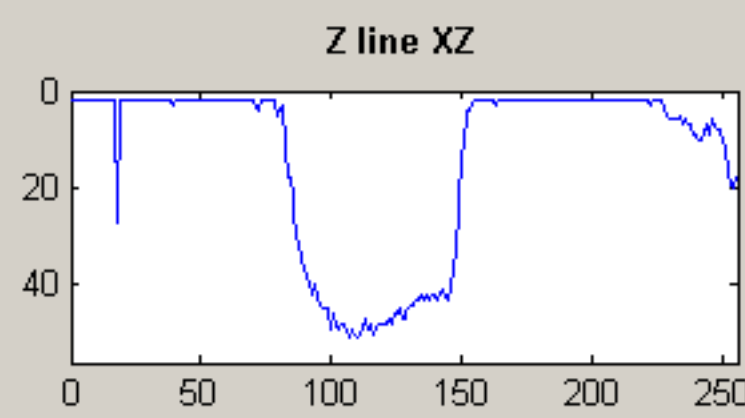
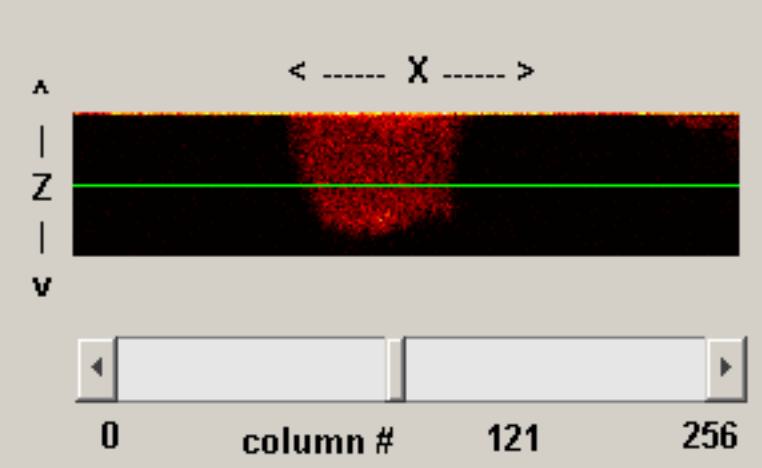
NOTE: You do not have to save the individual frames. You only need to do this if you want to import the frame images into another program.

If you want to save the movie frames check this box before creating the movie.

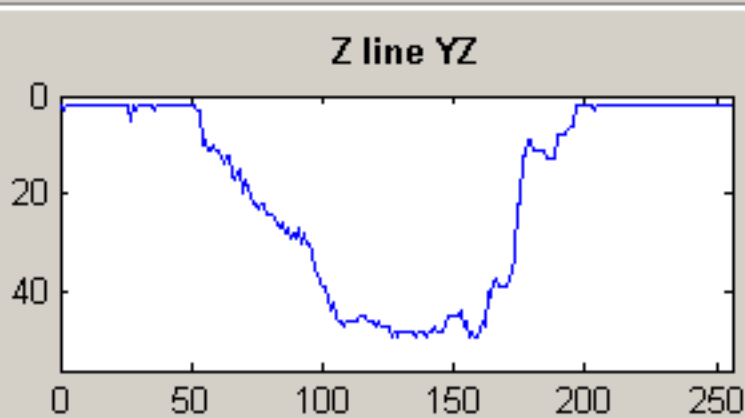
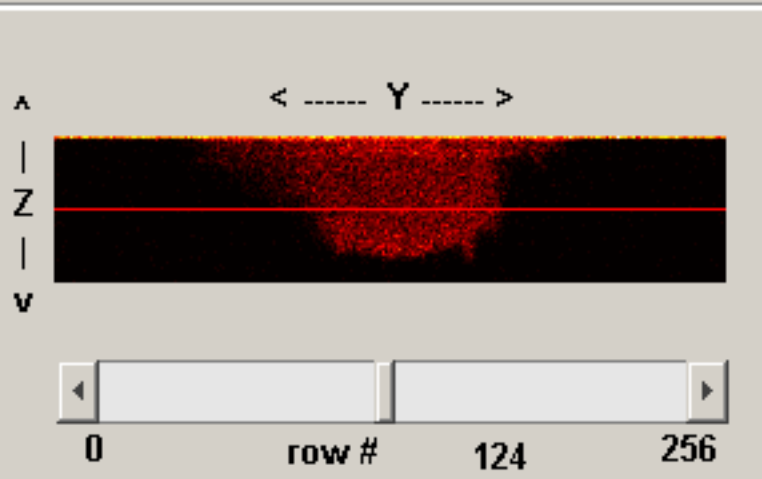
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie

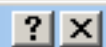


Save Corr XZ



Save Corr YZ

Save picture as



Save in: frames



My Recent Documents



Desktop



My Documents



My Computer



My Network Places



File name:

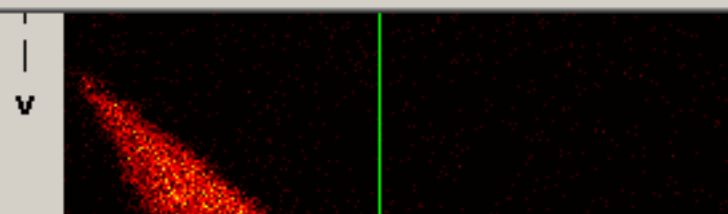
XYslices

Save as type:

jpeg (*.jpg)

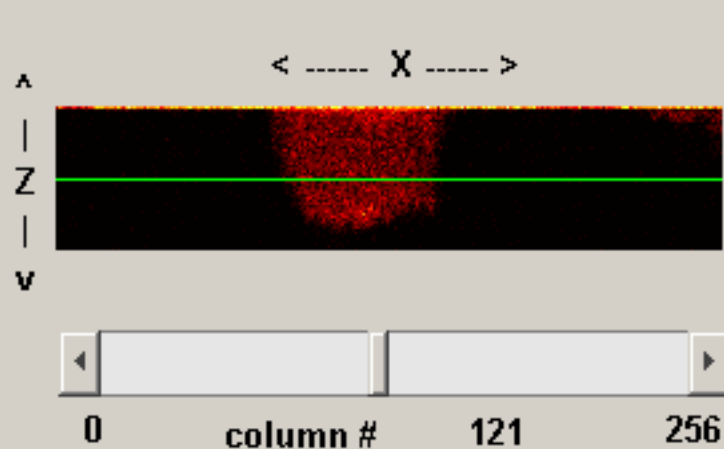
Save

Cancel



Layer number:

29



0

column #

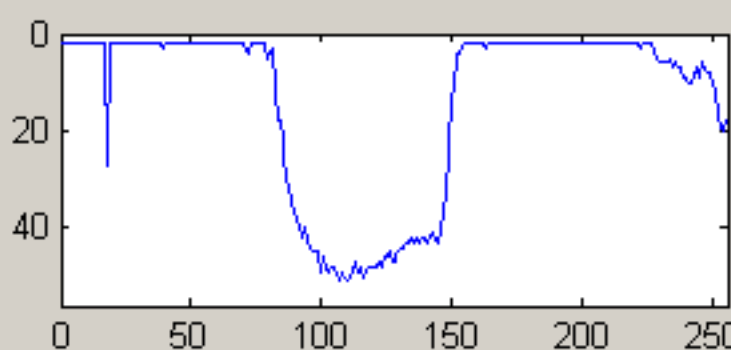
121

256

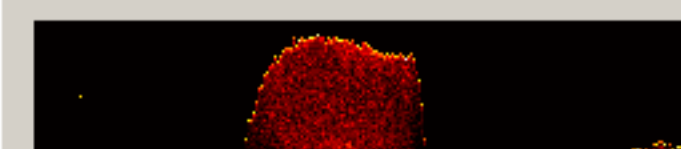
Thresholded total counts XZ



Z line XZ



Z corrected image XZ

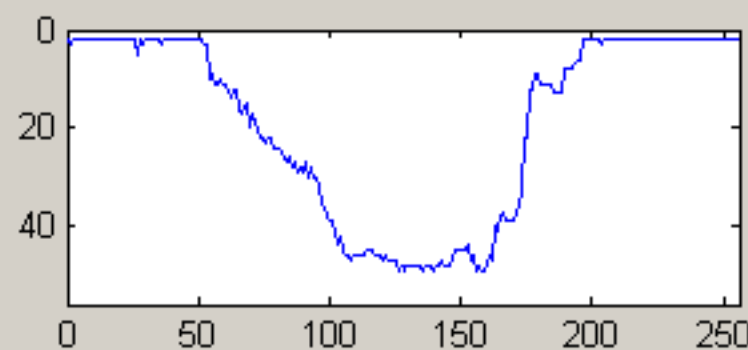


Save Corr XZ

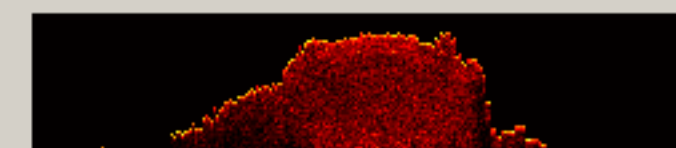
Thresholded total counts YZ



Z line YZ



Z corrected image YZ



Save Corr YZ

Adjust Total Counts Threshold Value

Close

☐ Work with Uncorrected Data

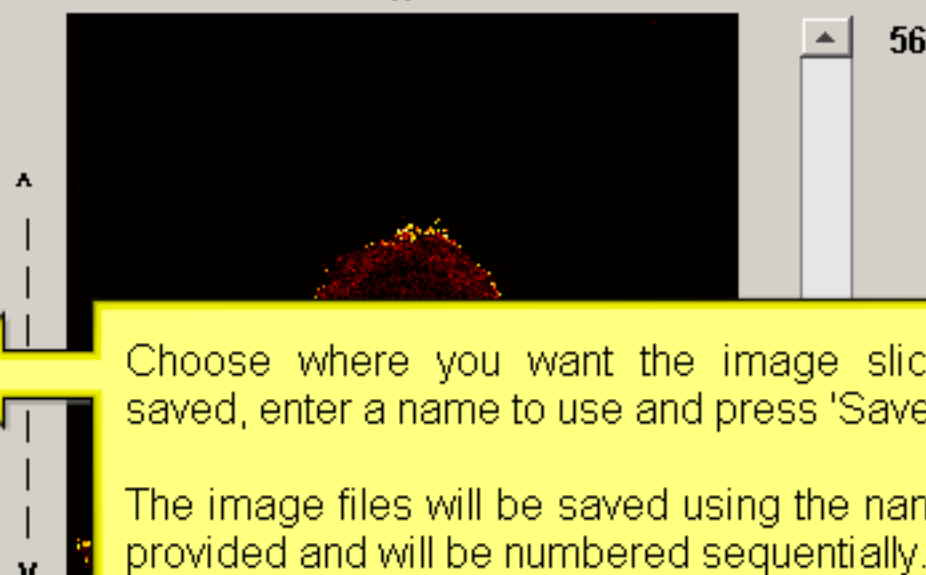
Overlay Tools

3D Tools

Initialize Corrected Data

Z corrected image XY

< ----- X ----- >



56

Choose where you want the image slices saved, enter a name to use and press 'Save'.

The image files will be saved using the name provided and will be numbered sequentially.



Layer number:

27

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Adjust Total Counts Threshold Value

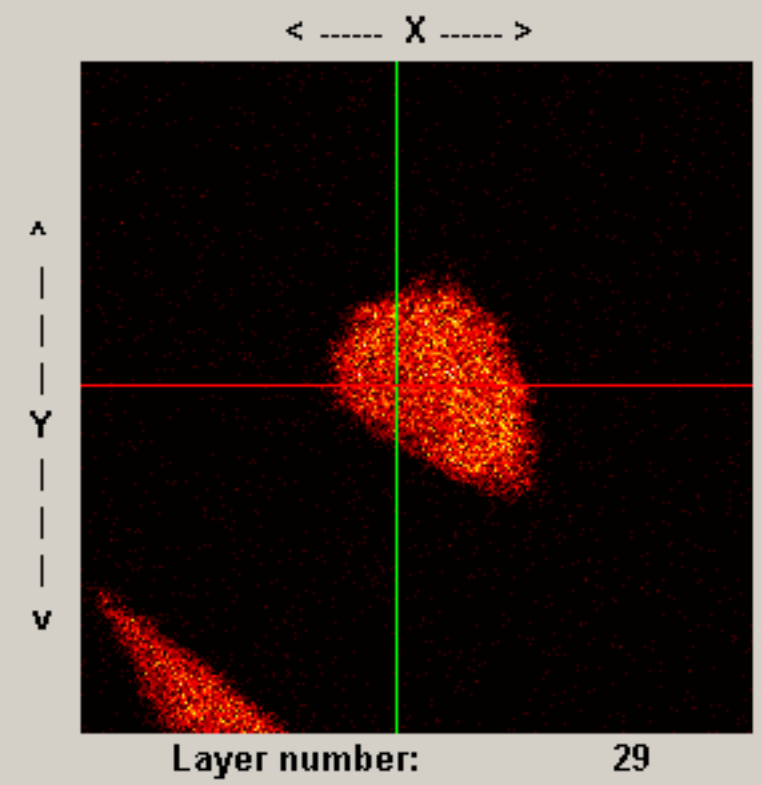
Close

Overlay Tools

3D Tools

Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Initialize Corrected Data

Z corrected image XY

< ---- X ---- >

Layer number: 27

To create the movie, press the corresponding button for the desired view.

Here we choose 'Create XY Corr Slice Movie'

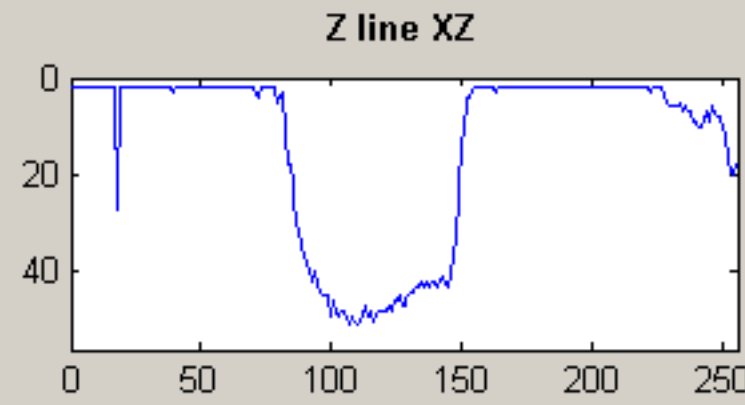
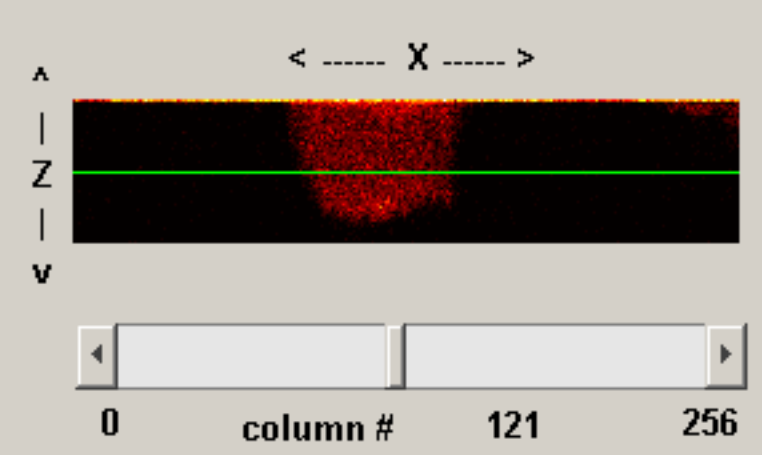
If you want to save the movie frames check this box before creating the movie.

☒

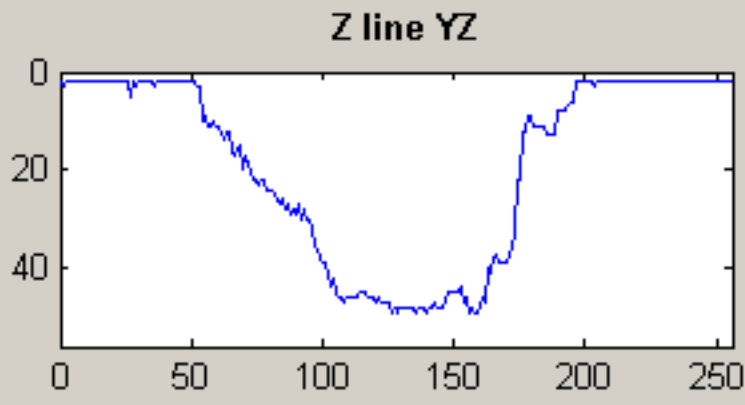
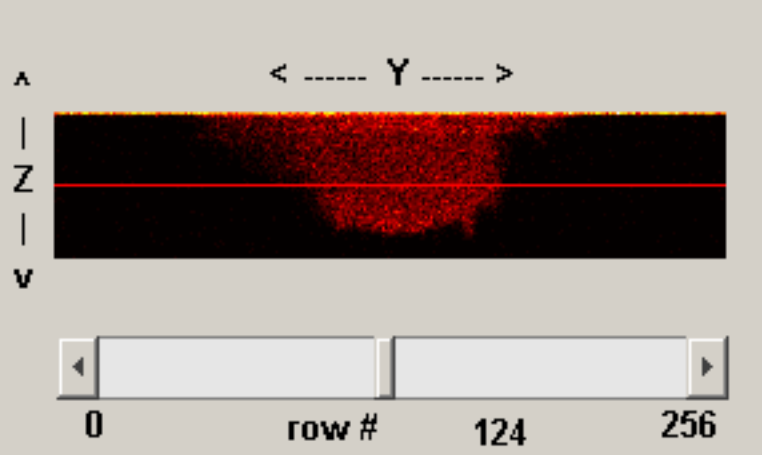
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

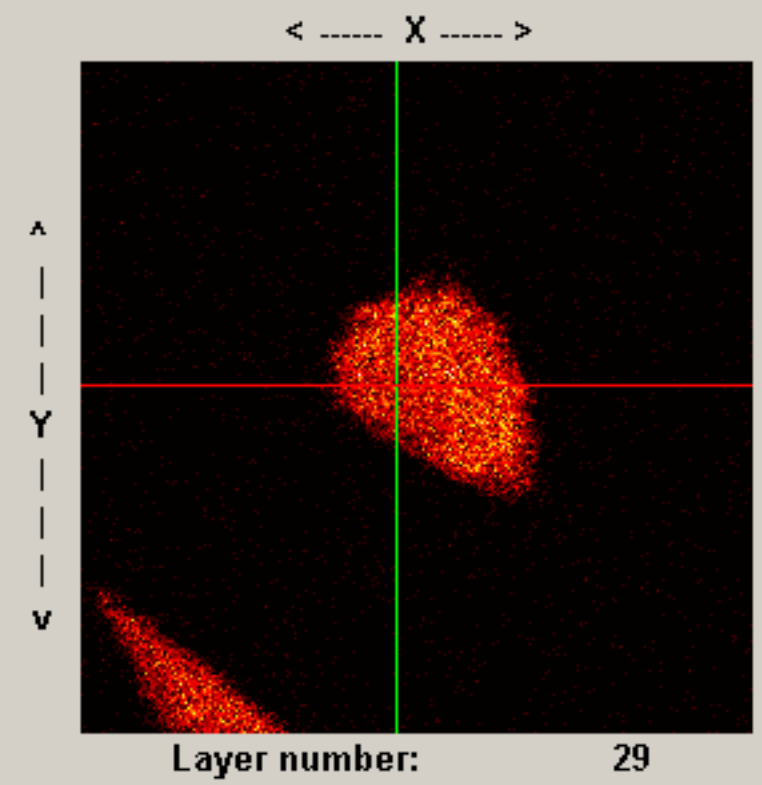
Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix

Downbin Data

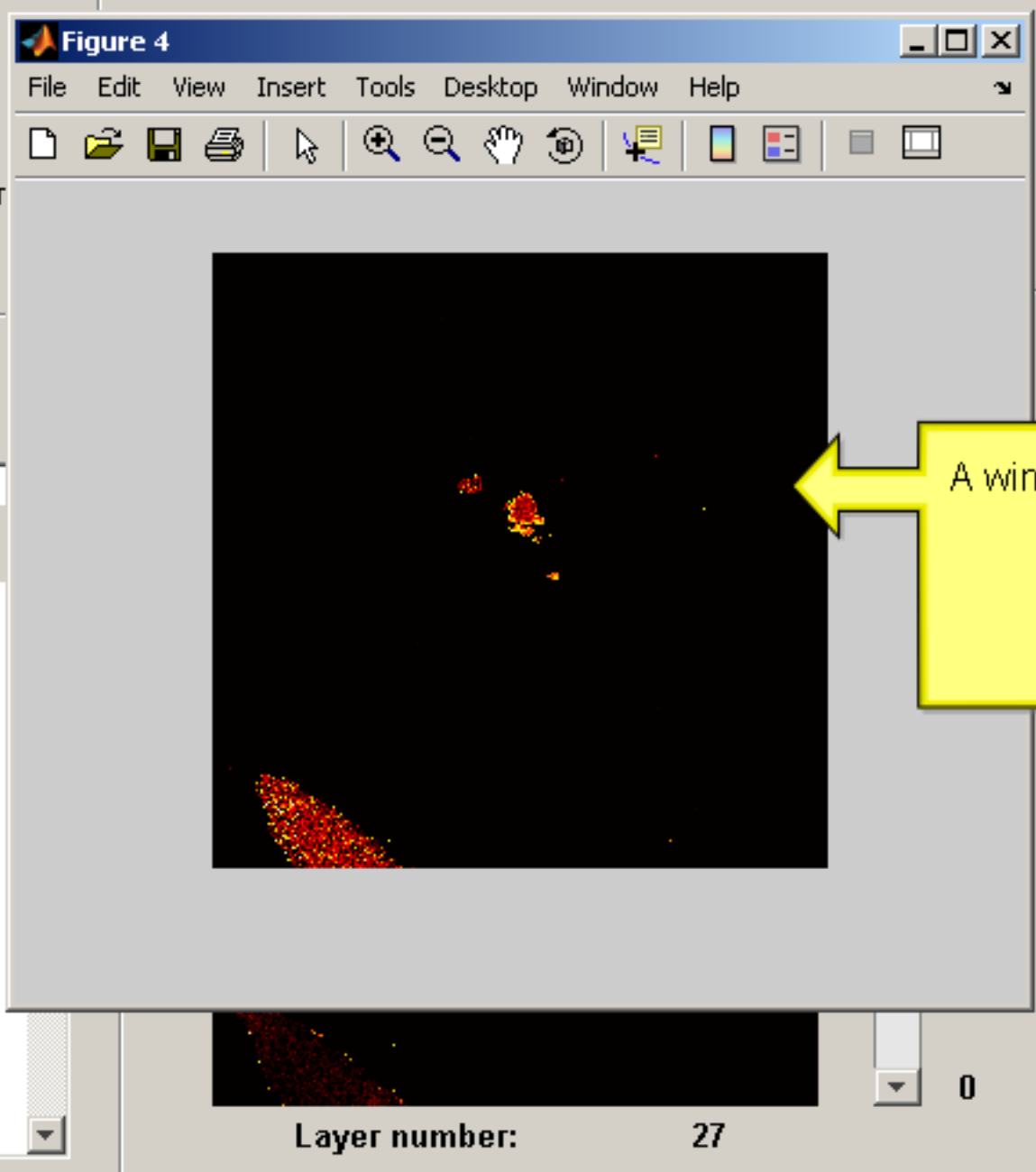
Data Being Displayed

Multiple



Peak List

Total_Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



A window will popup.

← →

Close

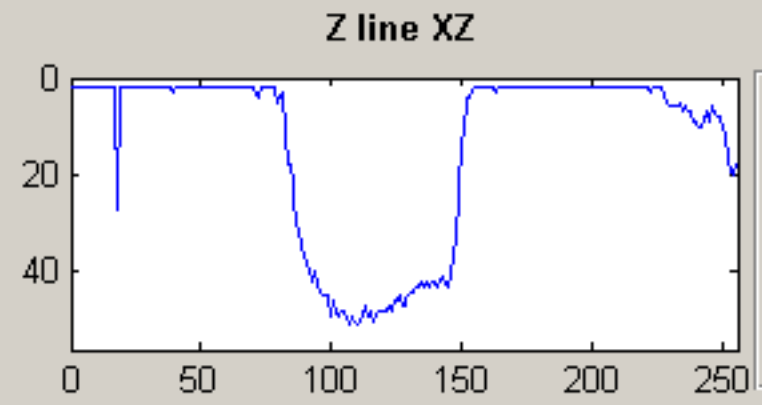
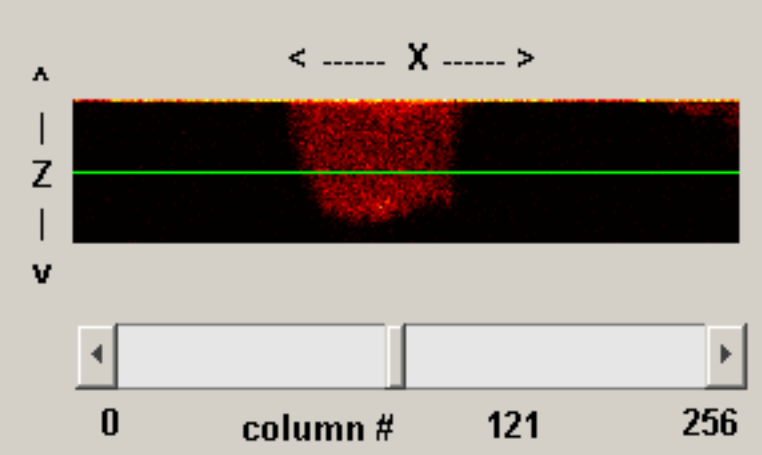
Overlay Tools

3D Tools

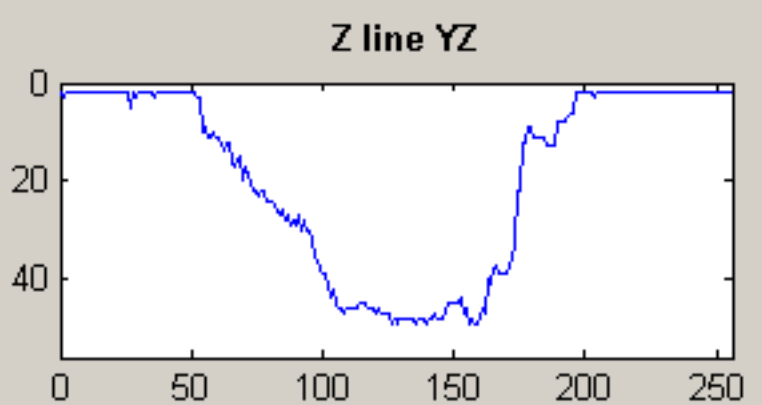
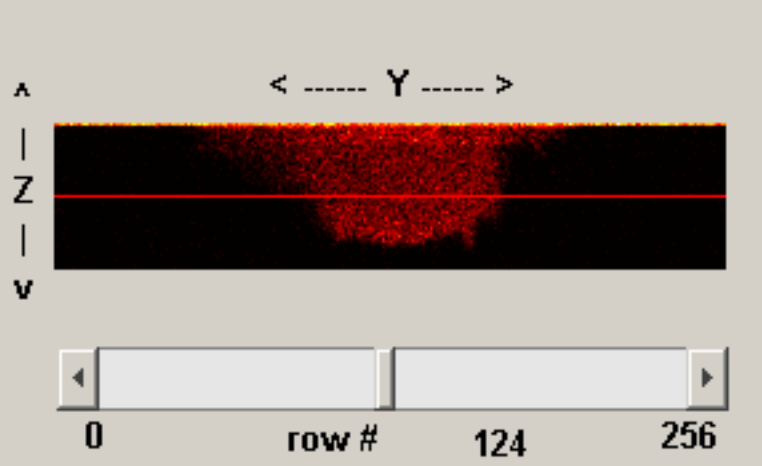
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

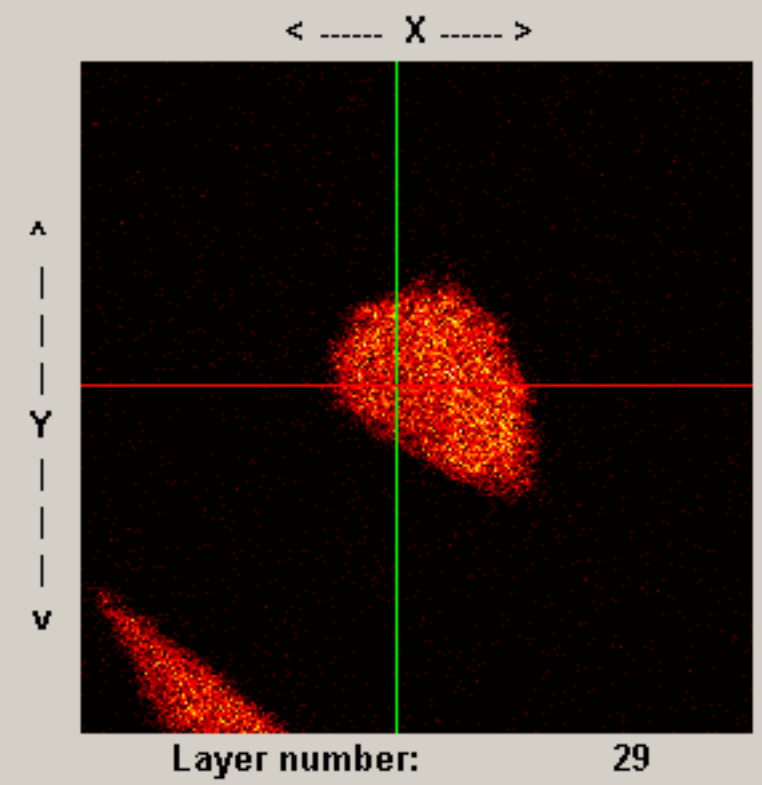
Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix

Downbin Data

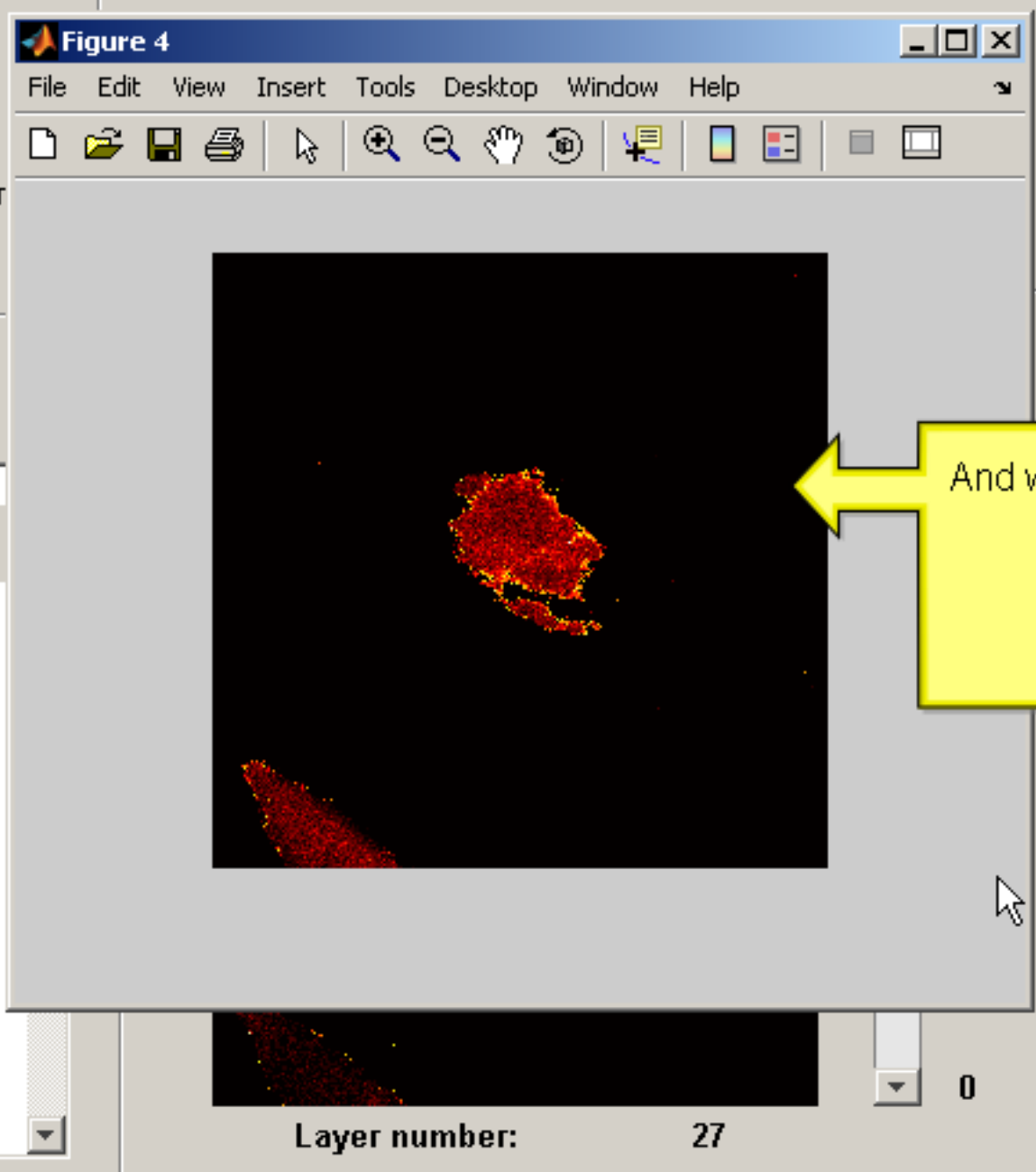
Data Being Displayed

Multiple



Peak List

Total_Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



And will show the movie being created.

← →

Close

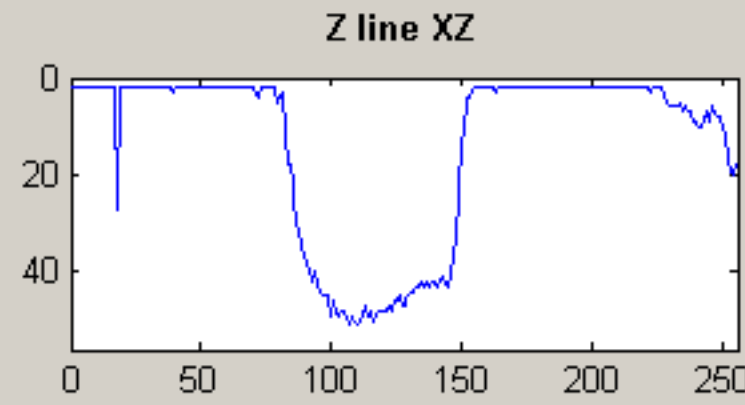
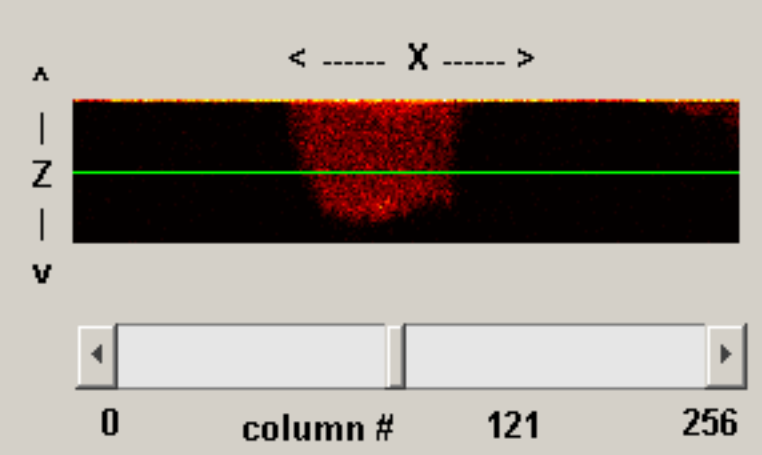
Overlay Tools

3D Tools

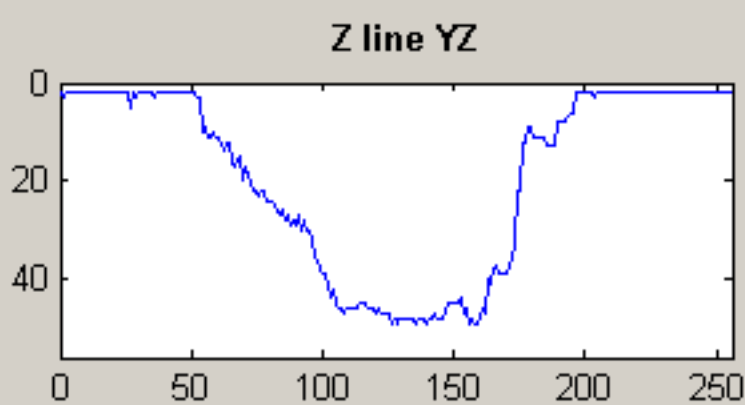
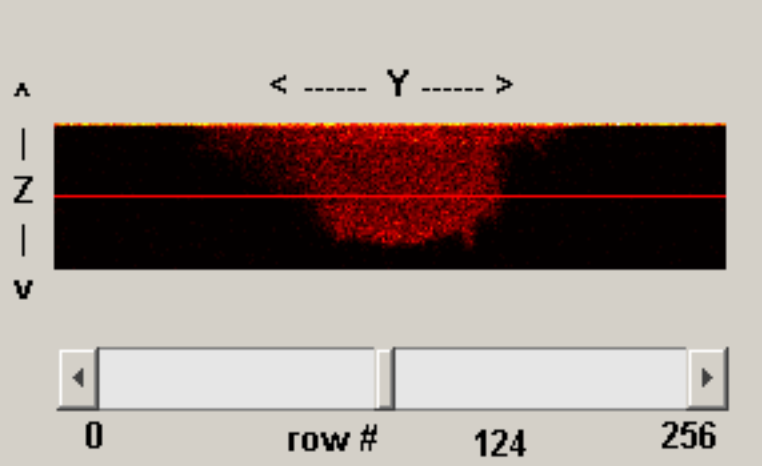
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

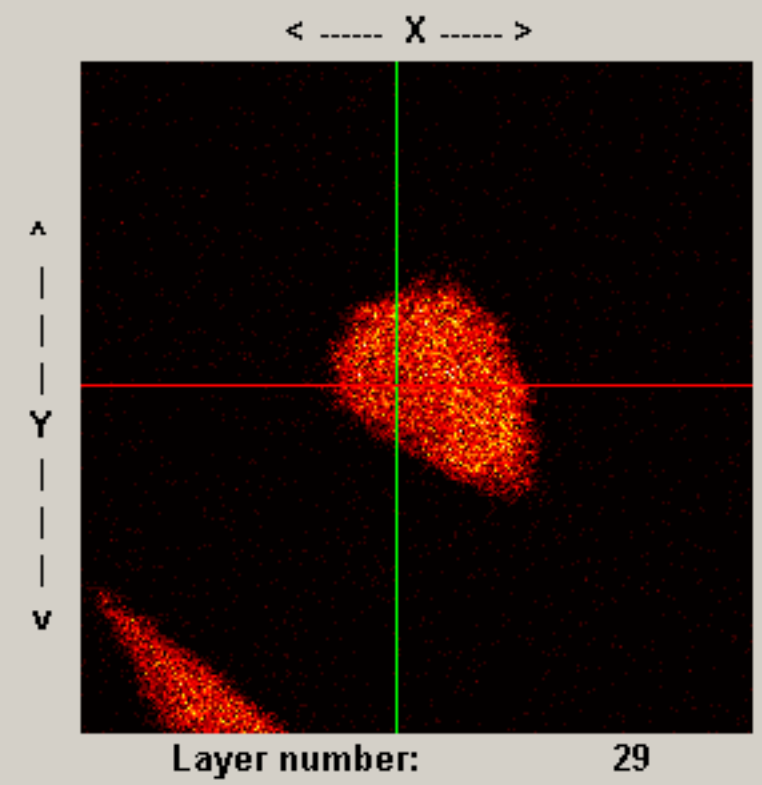
Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978

Figure 4

Select File to Write

Save in: work

frames
example.avi

My Recent Documents
Desktop
My Documents
My Computer
My Network Places

File name: XYslicemovie

Save as type: avi (*.avi)

Save

Close

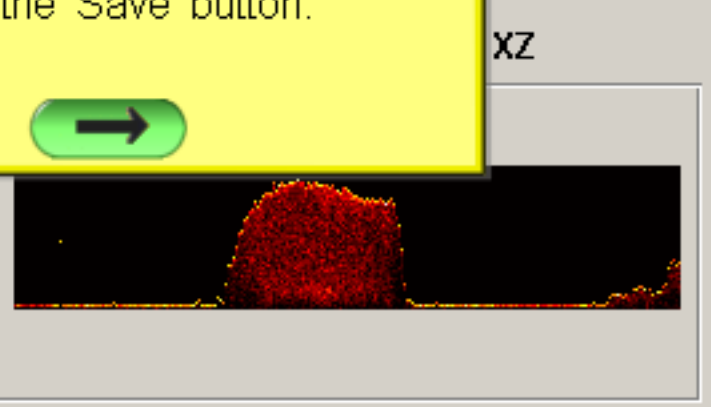
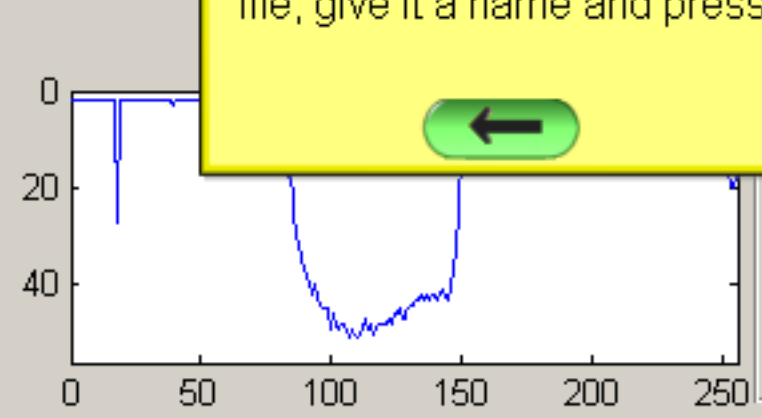
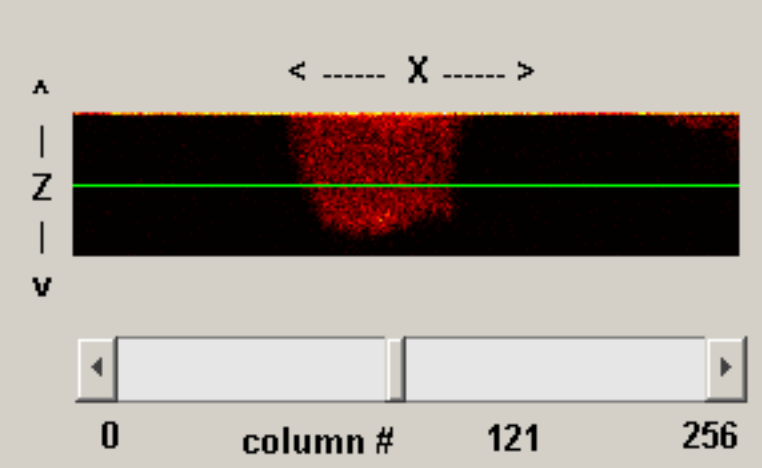
3D Tools

to save the movie click this box before the movie.

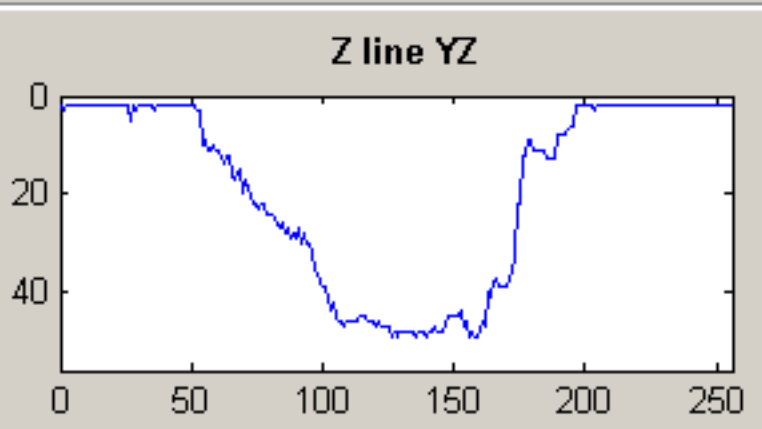
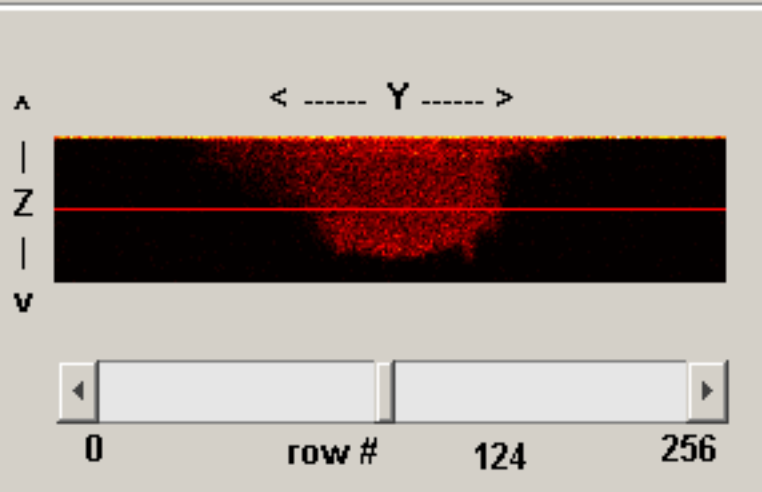
Corr Slice Movie

Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

When it is done, choose where you want to save the file, give it a name and press the 'Save' button.

Import Data From Directory

Import

Loaded Data

Number of image layers: **56**

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

Downbin Data

It may take a while to save the movie because they are created as uncompressed .avi files.

Once it is done saving you can close the popup window.

← →

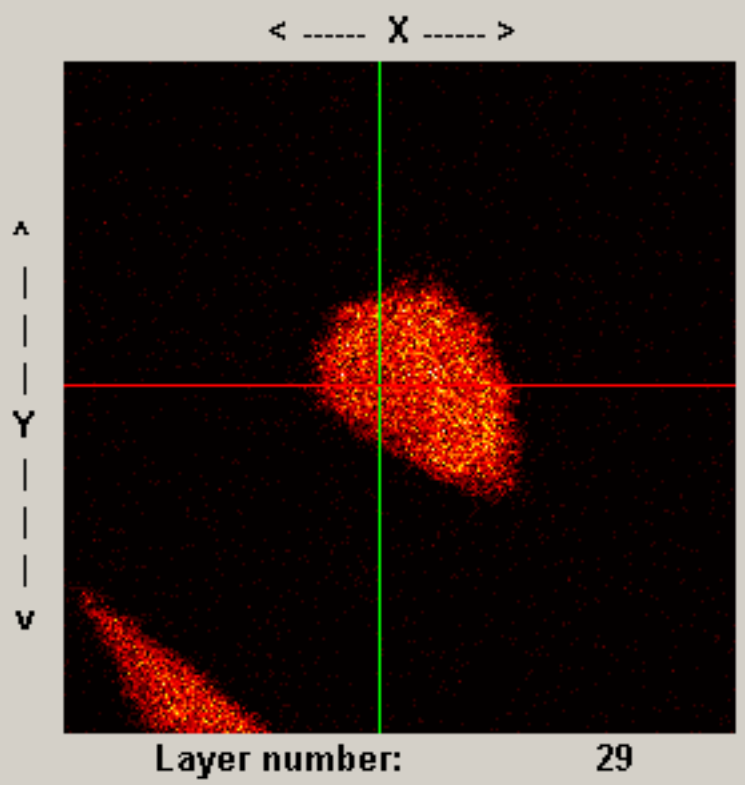
Close

Overlay Tools

3D Tools

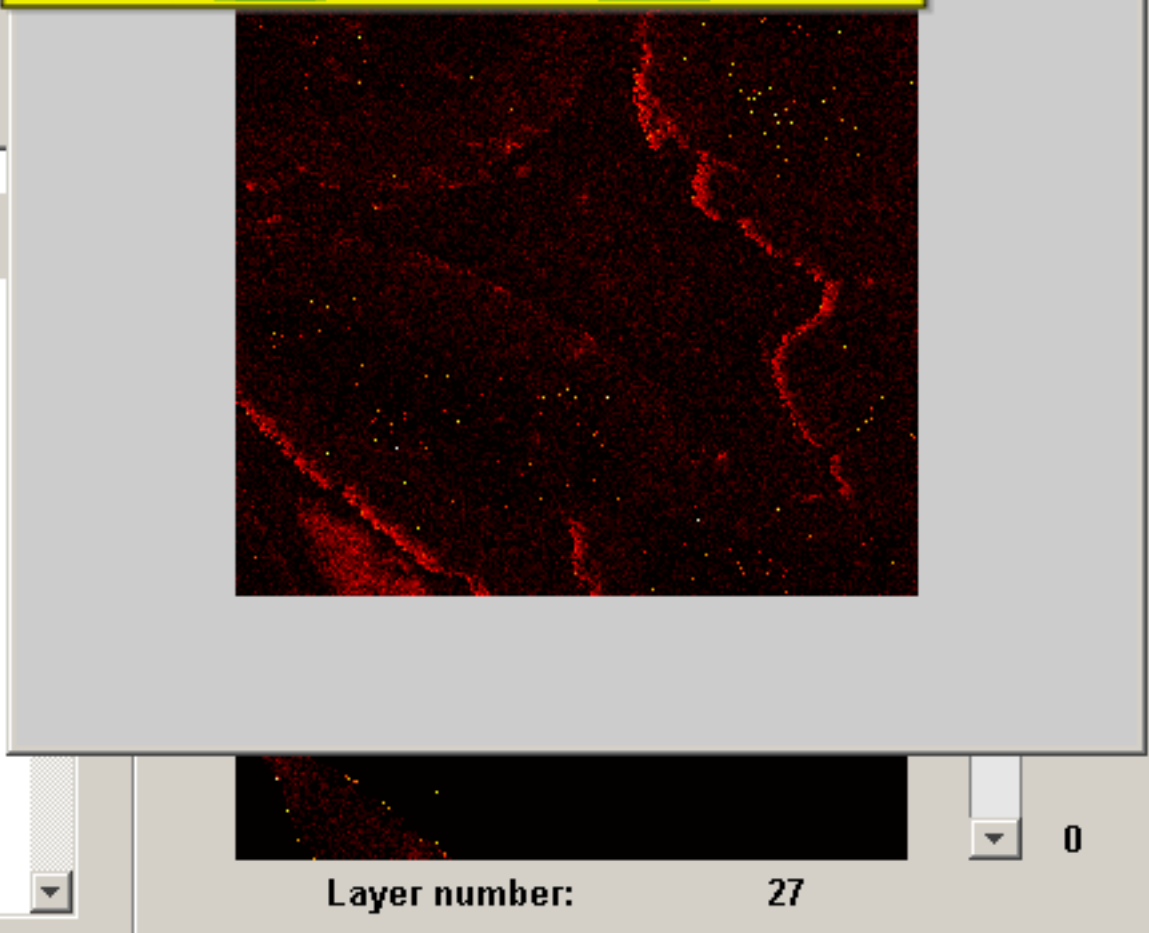
Data Being Displayed

Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413
125.1504
166.2641
184.3038
224.3978



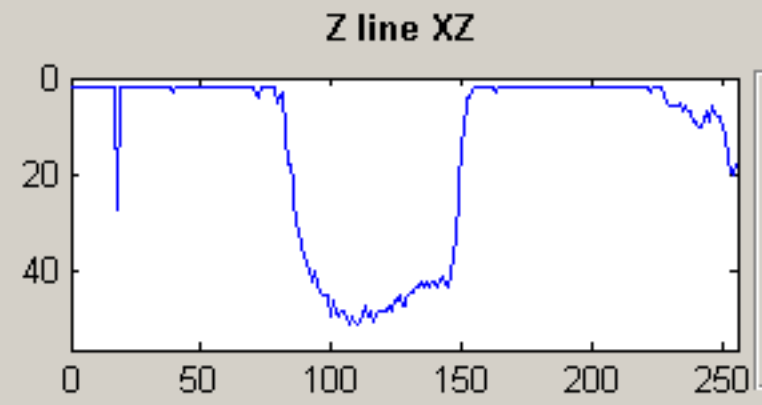
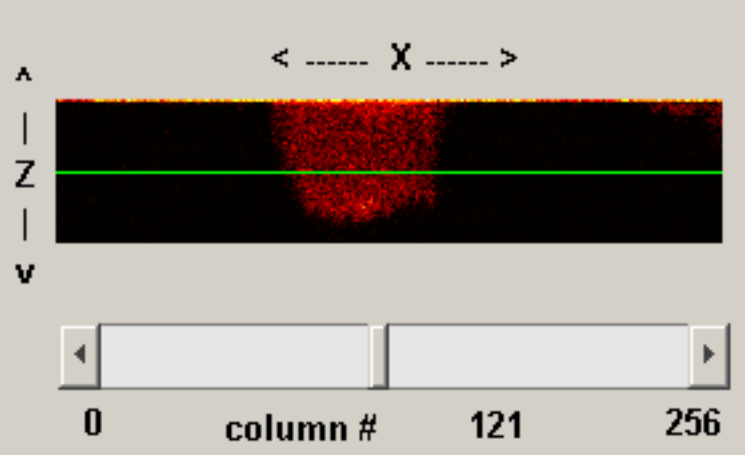
If you want to save the movie frames check this box before creating the movie.

☒

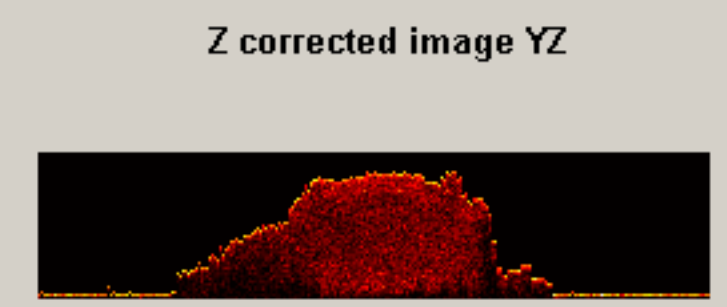
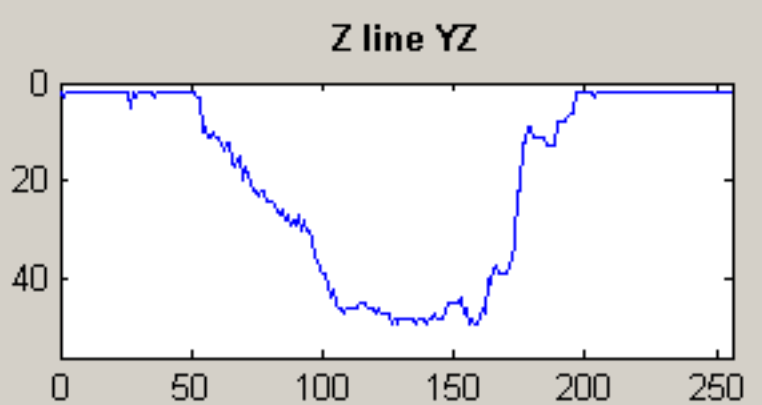
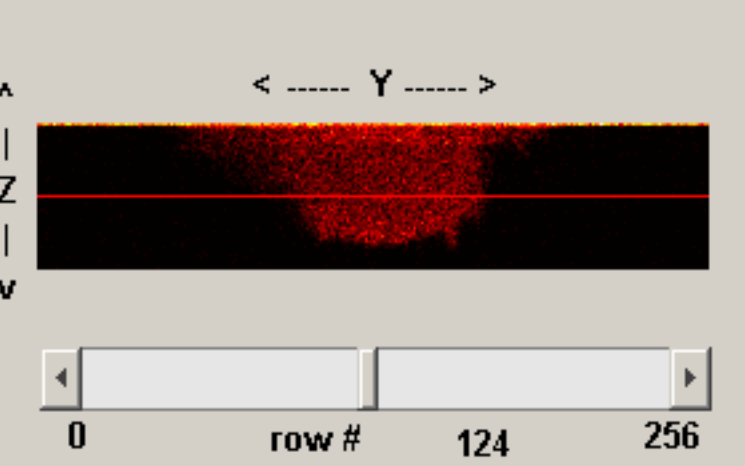
Create XY Corr Slice Movie

Create XZ Corr Slice Movie

Create YZ Corr Slice Movie



Save Corr XZ



Save Corr YZ

Import Data From Directory

Import

Loaded Data

Number of image layers: 56

Down binning the data cannot be undone. You must reload the original data in order to restore the original matrix.

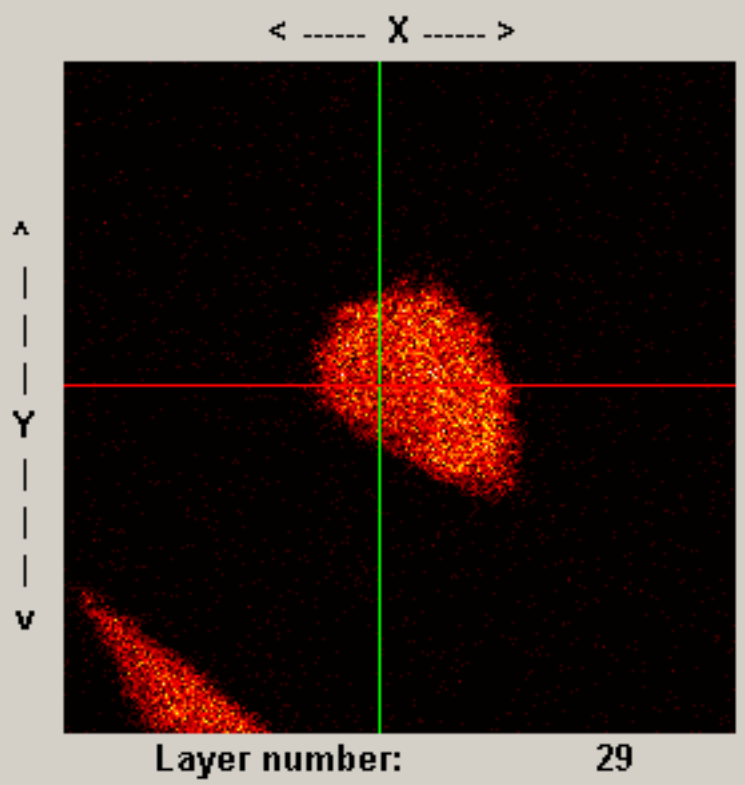
Downbin Data

Adjust Total Counts Threshold Value

Close

Data Being Displayed

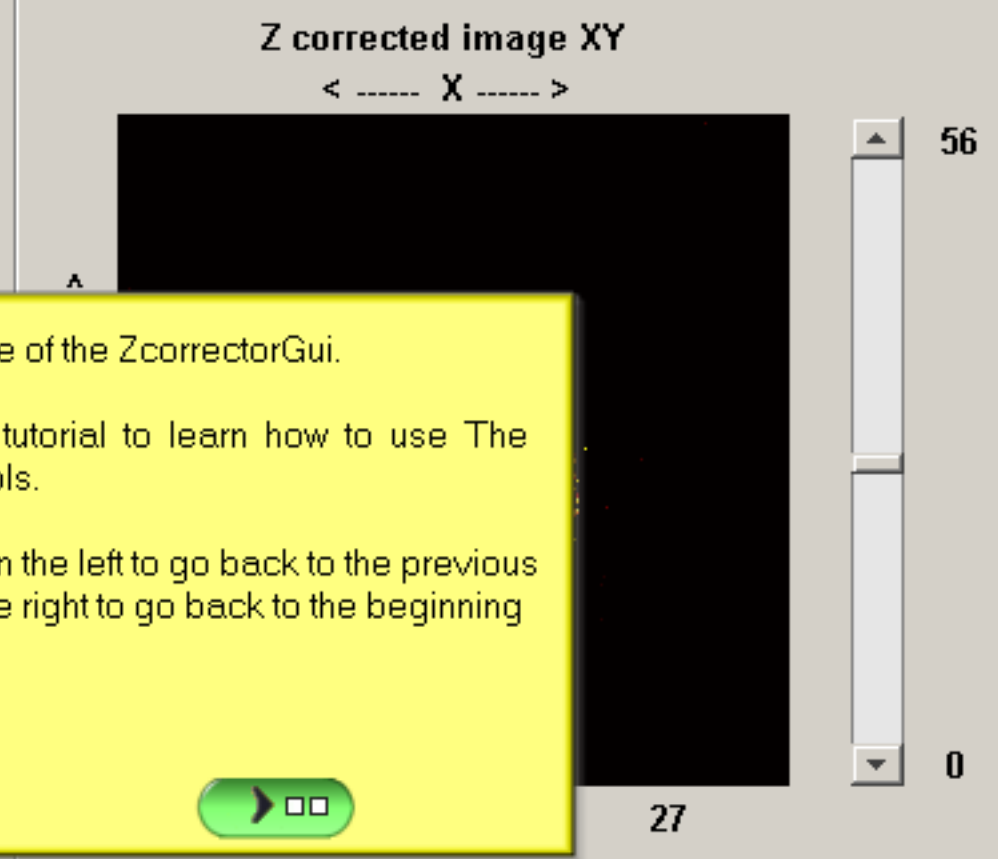
Multiple



Peak List

Total Counts
58.10555
70.13471
86.19242
104.2413

Initialize Corrected Data



Overlay Tools

3D Tools

If you want to save the movie frames check this box before creating the movie.

Create XY Corr Slice Movie

Create XZ Corr Slice Movie

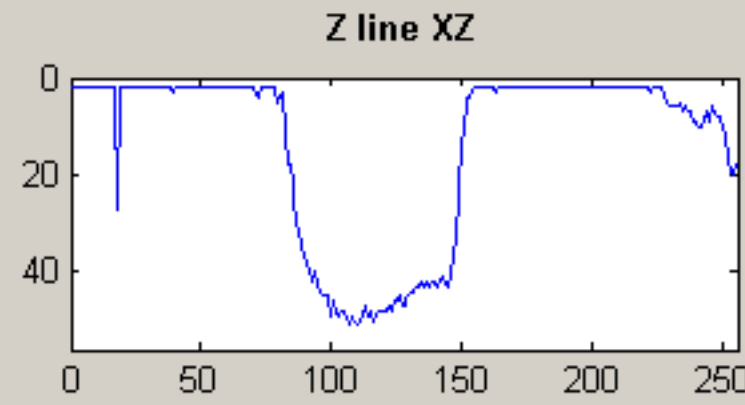
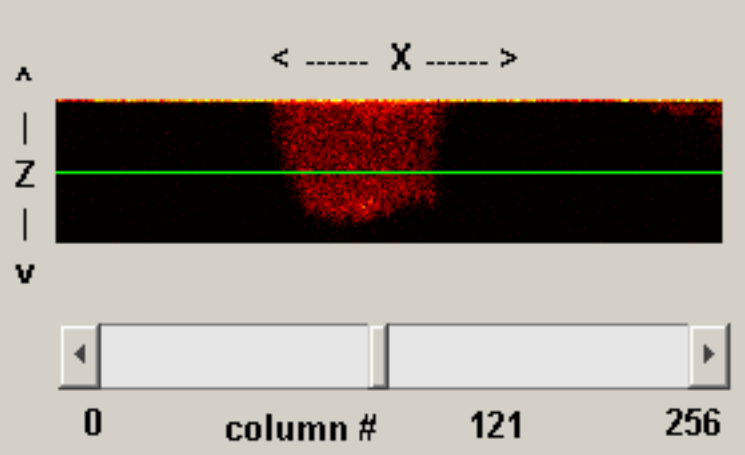
Create YZ Corr Slice Movie

That's it for the main page of the ZcorrectorGui.

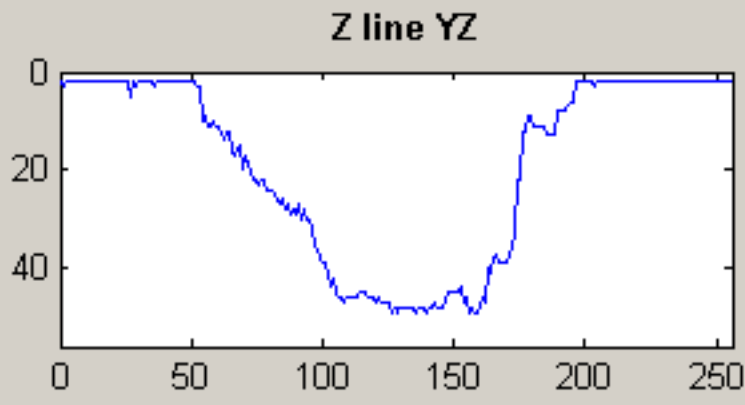
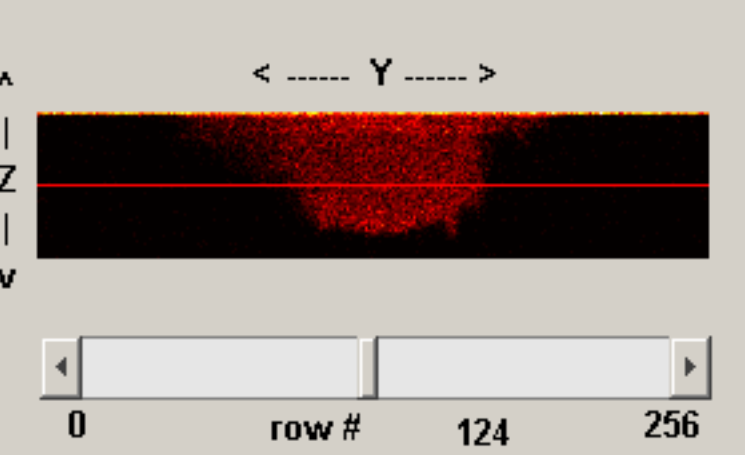
Continue on to another tutorial to learn how to use The Overlay Tools or 3D Tools.

Press the green button on the left to go back to the previous step. Press the button the right to go back to the beginning of the tutorial.

← →



Save Corr XZ



Save Corr YZ