

Import BiF Data From Directory

Import Data From Workspace

Import Bif(6)

Load WS

Import Bif3D

Number of image layers:

84

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

Downbin Data

Normalize Data

Adjust Total Counts Threshold Value

☒ Work with Uncorrected Data

Initialize Corrected Data

Z corrected image XY

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

Overlay Tools

3D Tools

Color Overlay

2D Profiles

PCA Tools

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

Data Being Displayed

Total_Counts

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

Peak List

Total Counts
15.02

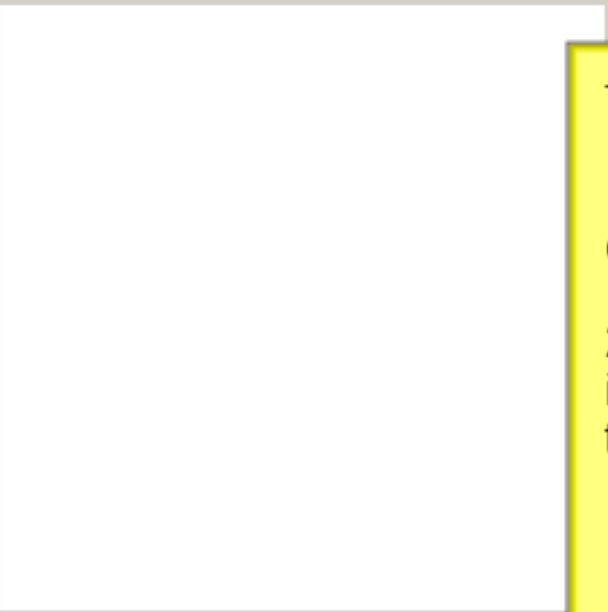
^

|

Y

|

v



Layer number:

1

This tutorial will cover two new features in the 3D tools panel. These include:

1. The ability to unfold a 3D image stack into a 2D tiled image. This allows easy viewing of layer by layer changes throughout the 3D image stack.

2. A correlated image finder. This unfolds the 3D image stack for all variables in the data set and then uses the correlated image finder to find image stacks that show a similar spatial distribution across all layers.

←

→

84

0

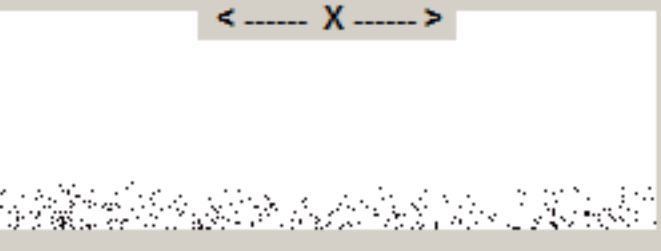
^

|

Z

|

v



0

column #

1

256

Thresholded total counts XZ



Z line XZ



Z corrected image XZ



Save Corr XZ

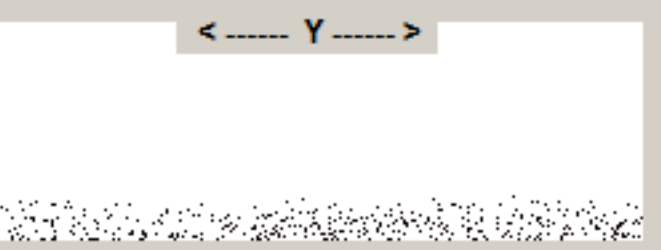
^

|

Z

|

v



0

row #

1

256

Thresholded total counts YZ



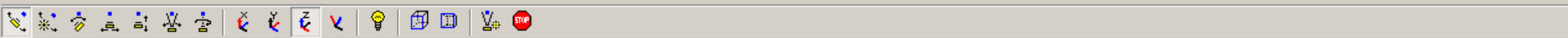
Z line YZ



Z corrected image YZ



Save Corr YZ



Choose peak(s) to plot

- 57.03
- 57.07
- 59.01
- 65.03
- 67.05
- 69.03
- 69.07
- 70.03
- 71.05
- 73.06
- 75.04
- 77.03
- 79.05
- 83.08

☐ Check Box To Smooth Data For Display

☐ Use Axis Labels

Choose Colormap

Hot

Choose Background Color

Current BG color

View in 3D

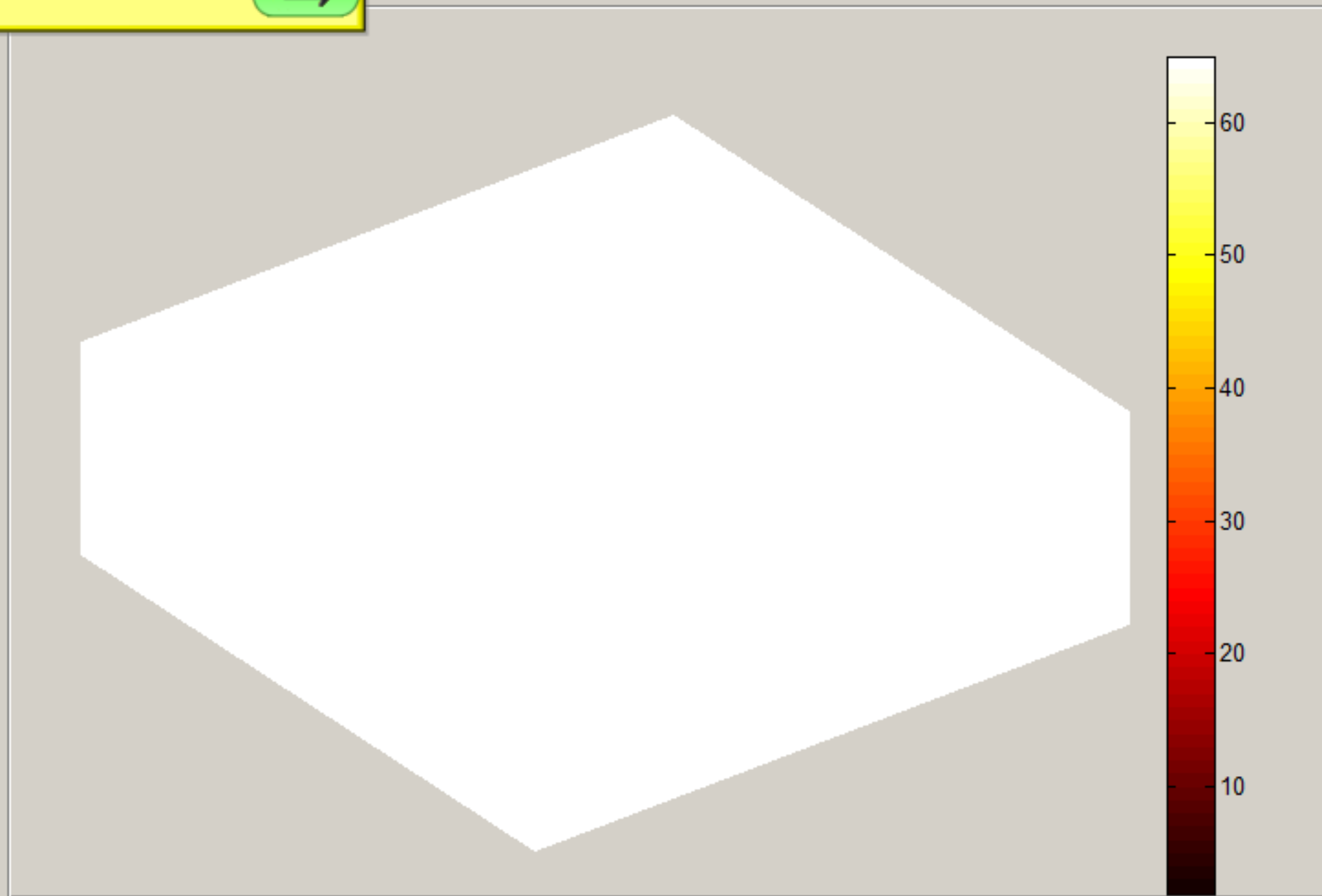
Close Panel

After selecting a peak, press the 'View in 3D' button to view the 3D image.

Make Ext

Unfold Data

Find Corr Data





Choose peak(s) to plot

- 57.03
- 57.07
- 59.01
- 65.03
- 67.05
- 69.03
- 69.07
- 70.03
- 71.05
- 73.06
- 75.04
- 77.03
- 79.05
- 83.08

☐ Check Box To Smooth Data For Display

☐ Use Axis Labels

Choose Colormap

Hot

Choose Background Color

Current BG color

View in 3D

Multicolor Overlay Panel

Close Panel

Check which axes you want to rotate around

☐ X ☐ Y ☐ Z

Number of degrees for rotation

360

Preview

Create 3D Movie

Tools To Isolate Specific Voxel Intensities

Use the sliders below to select the intensity range that you want to isolate in the 3d plot. Then hit the update button.

NOTE: The value of Min cannot be more than Max

Choose Color

Current color

MIN 1

1 7

MAX 7

Update

Rotation and Scaling Options

0 Rotate Left/Right 360

Horizontal Rotation= 322.5

0 Rotate Up/Down 360

Vertical Elevation= 30

100

Z scale factor = 1

0

Take Snap Shot

Make Ext

Unfold Data

Find Corr Data

Now press the 'Unfold Data' button.

Transparency Options

Be Patient This Works Very Slowly!

Alpha down

Top slice

84

1

1

Alpha

1

0.5

0

Alpha up

Bottom slice

84

1

1

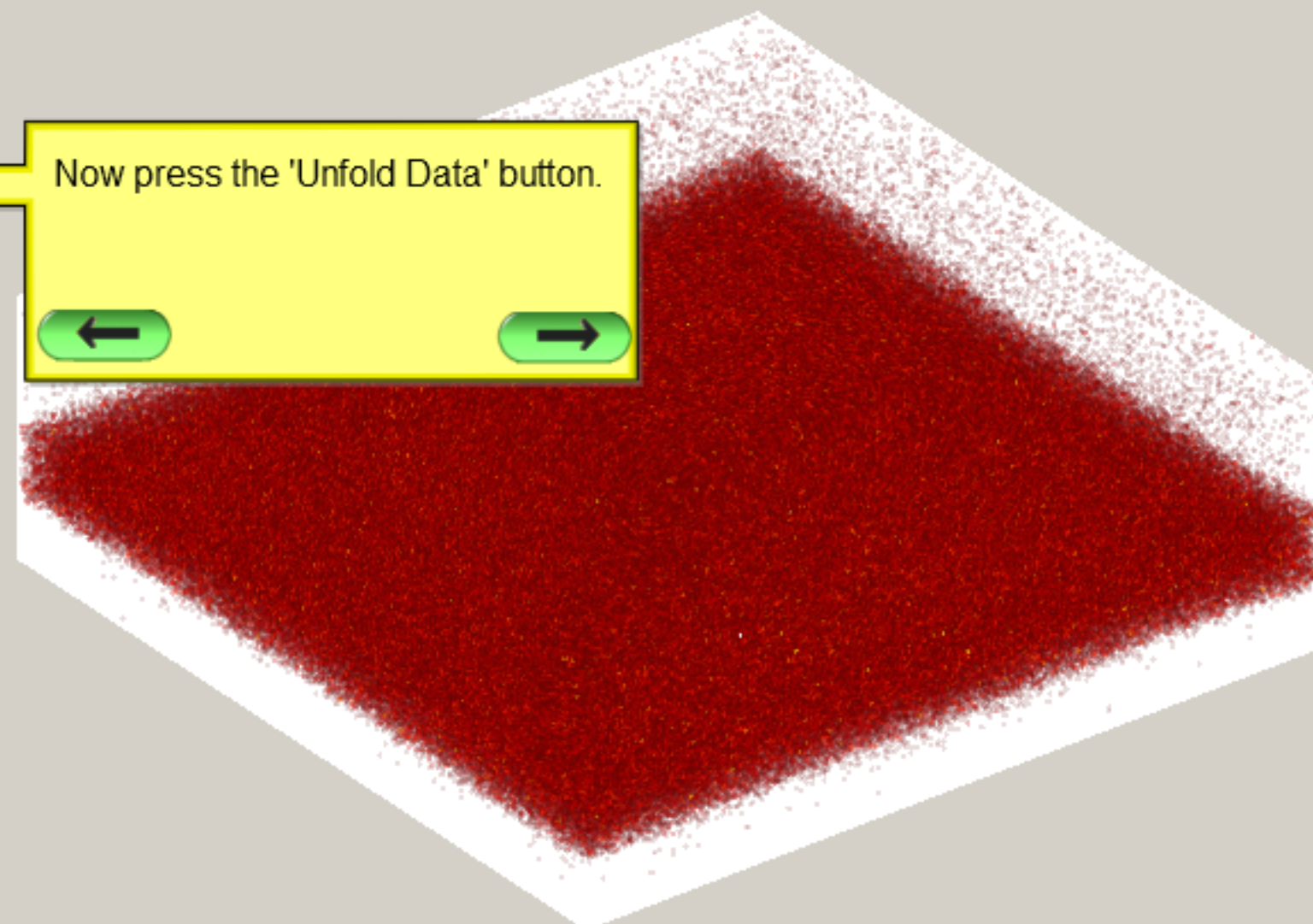
Alpha

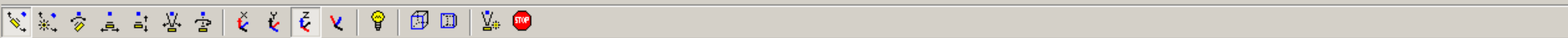
1

0.5

0

Update





Choose peak(s) to plot

- 57.03
- 57.07
- 59.01
- 65.03
- 67.05
- 69.03
- 69.07
- 70.03
- 71.05
- 73.06
- 75.04
- 77.03
- 79.05
- 83.08

☐ Check Box To Smooth Data For Display

☐ Use Axis

Ho

Cho

Mu

Rotation and Scaling C

0 Rotate Left/Right 360

Horizontal Rotation= 322.5

0 Rotate Up/Down 360

Vertical Elevation= 30

Transparency Op

Be Patient This Works V

Alpha down

Top slice

84

1

1

Alpha

1

0.5

0

Alpha up

Bottom slice

84

1

1

Alpha

1

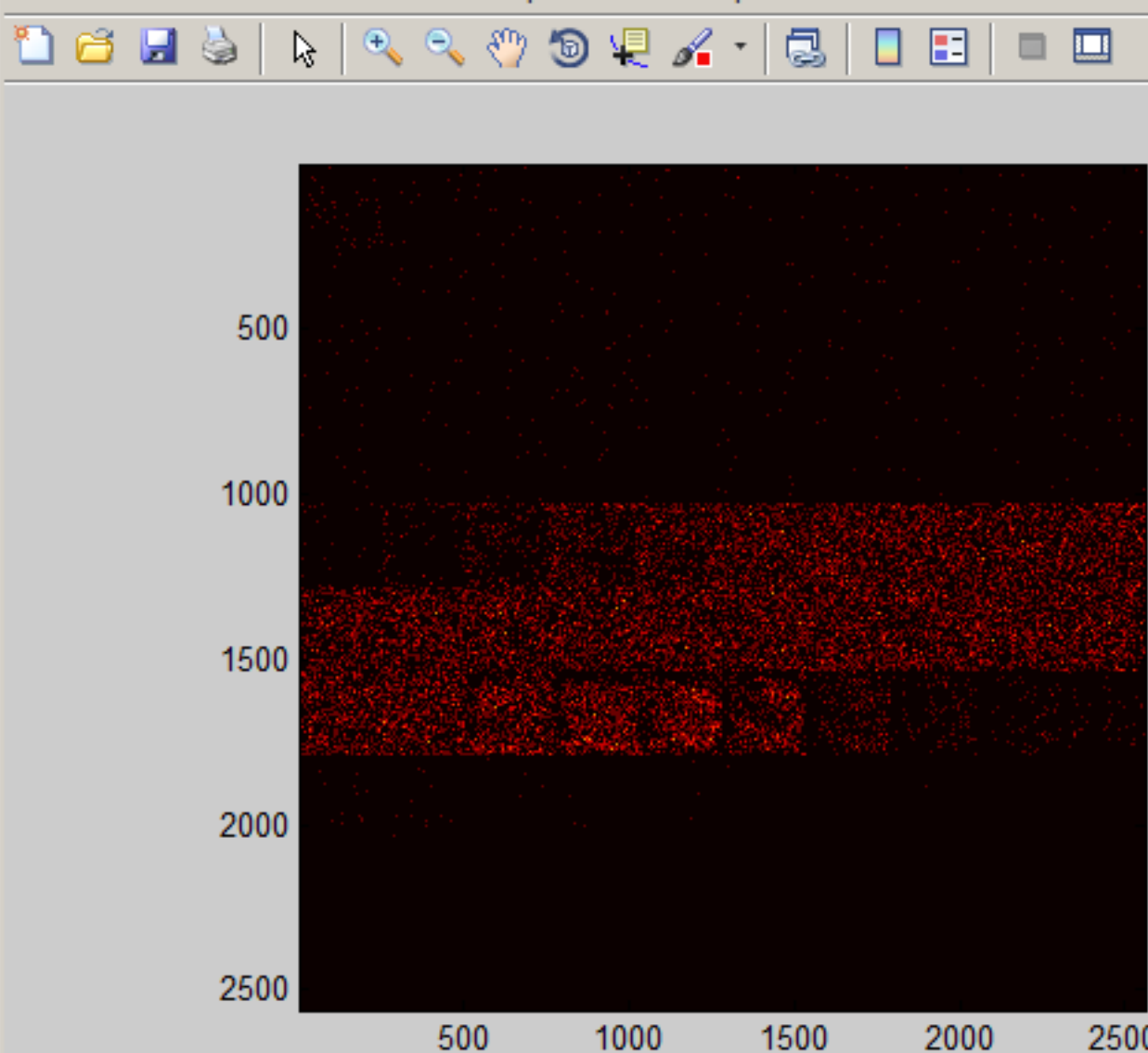
0.5

0

Update

Figure 1

File Edit View Insert Tools Desktop Window Help



Tools To Isolate Specific Voxel Intensities

Use the sliders below to select the intensity range that you want to isolate in the 3d plot. Then hit the update button.

OTE: The value of Min cannot be more than Max

1

1

7

Choose Color

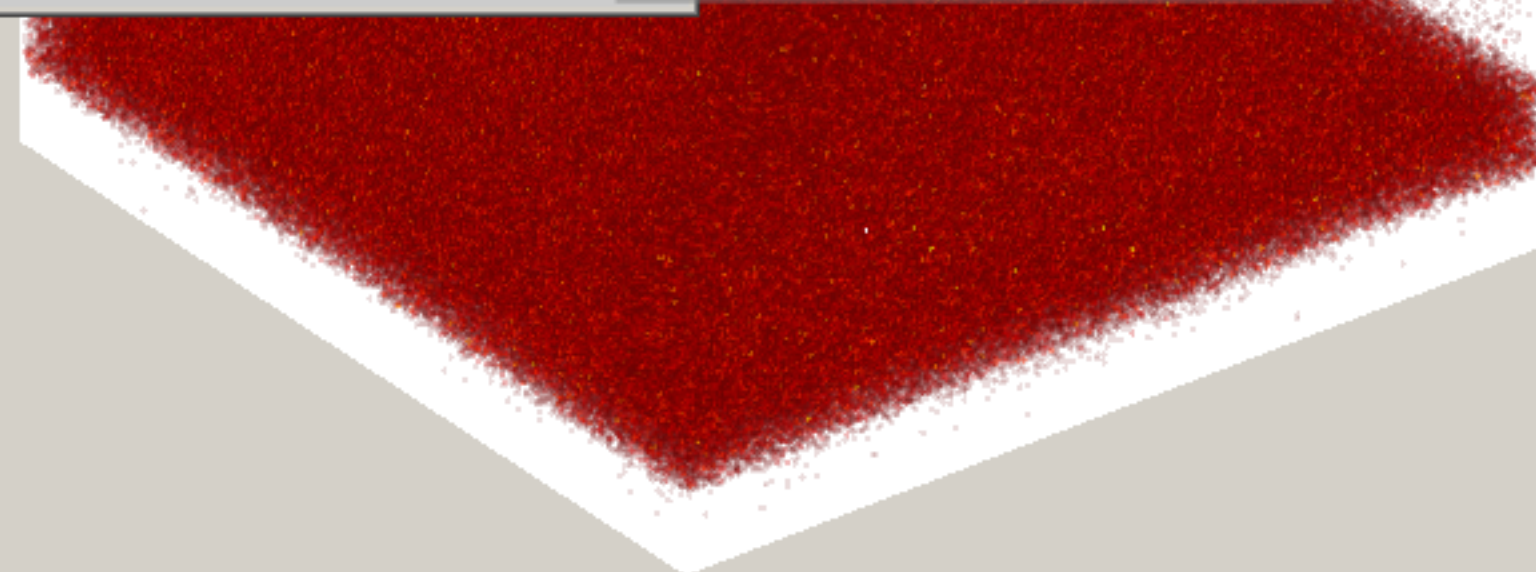
Current color

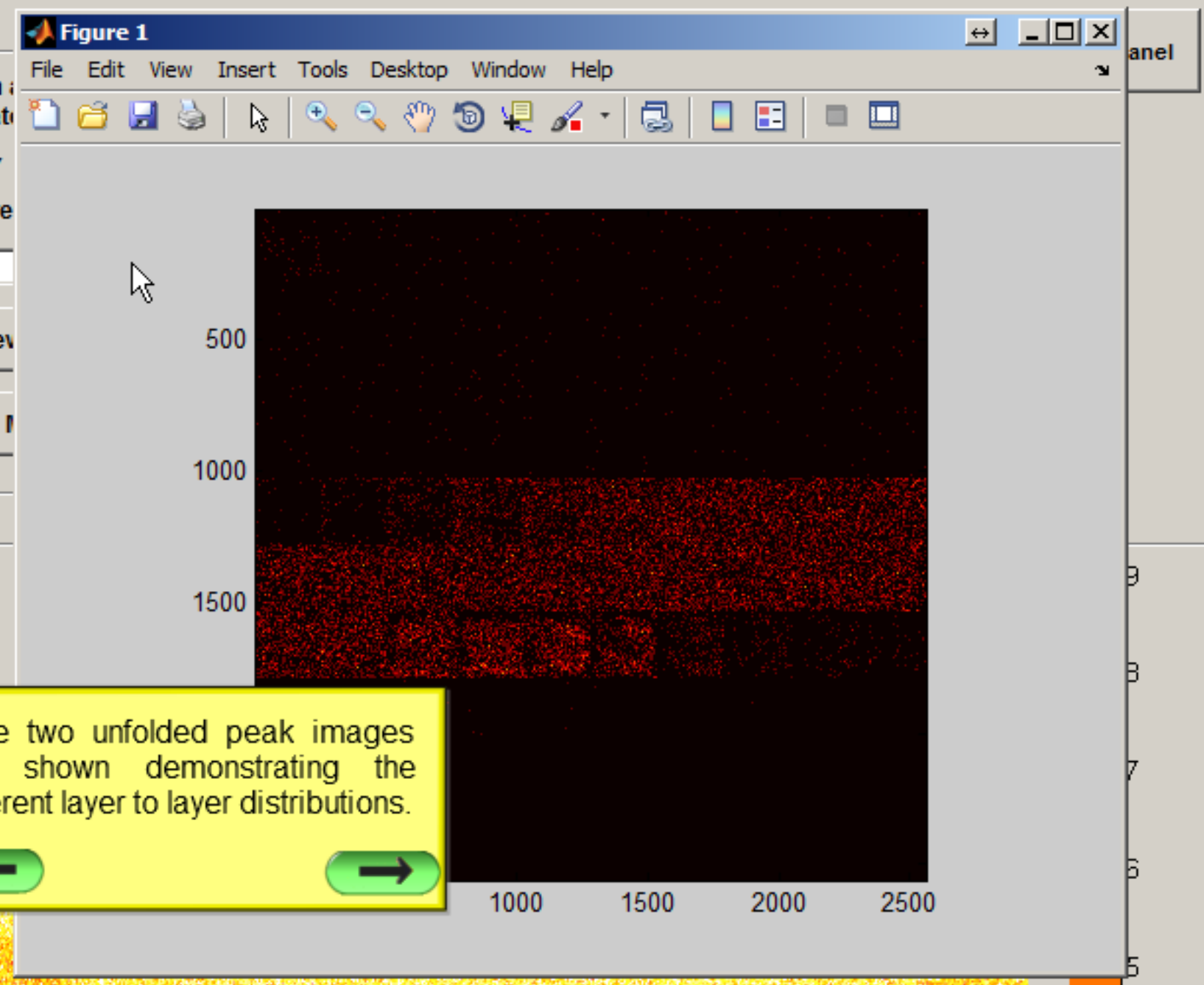
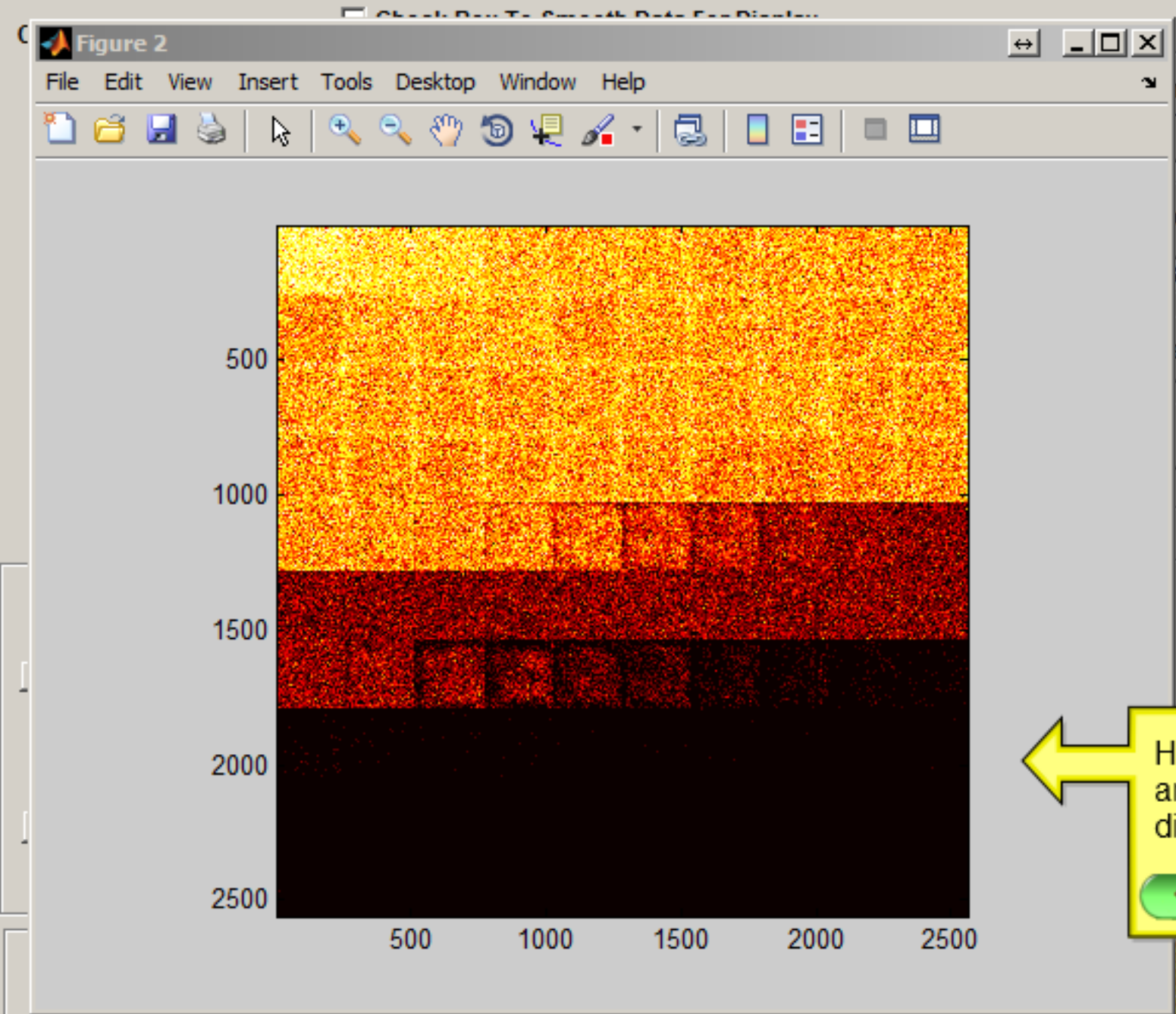
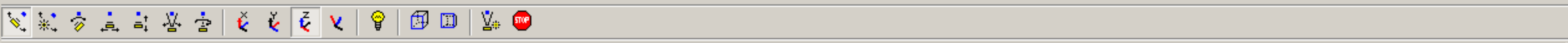
Update

The unfolded image stack is shown in a separate window.

In this view each layer is placed in a tile starting with layer 1 in the upper left corner and continuing in sequence from left to right.

The image is automatically formatted to be square so it is possible that some tiles at the bottom will be empty.





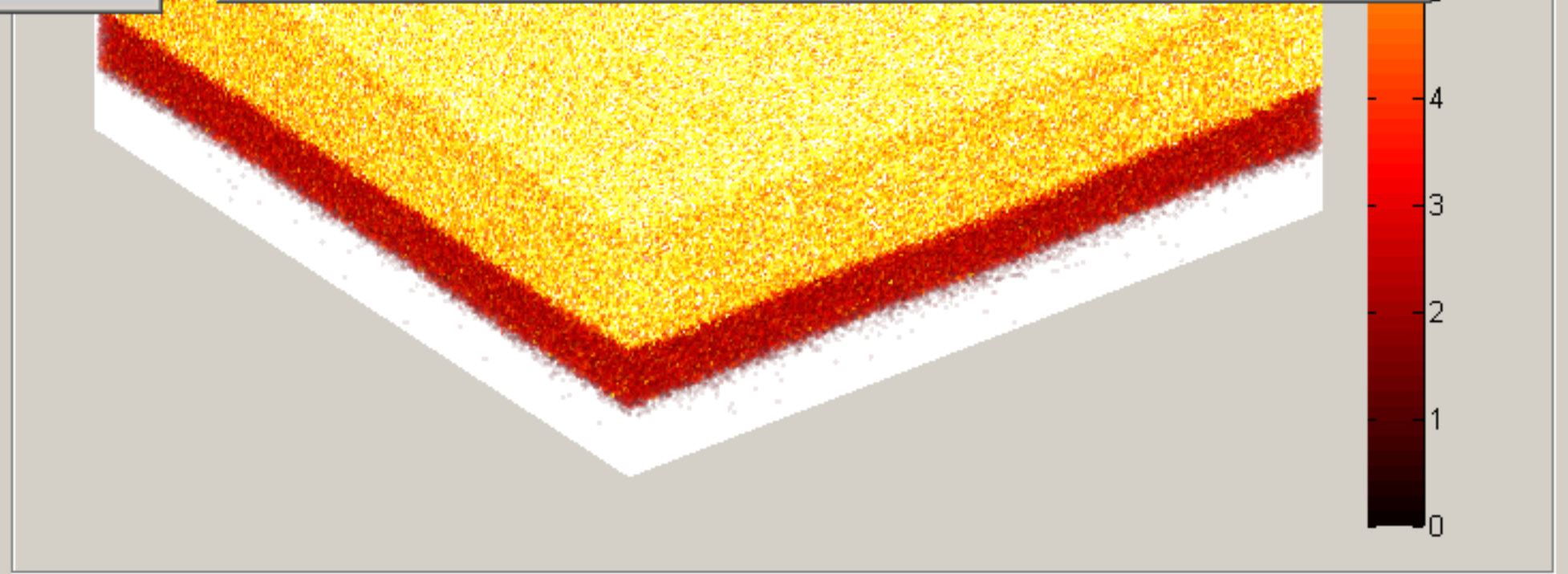
Here two unfolded peak images are shown demonstrating the different layer to layer distributions.

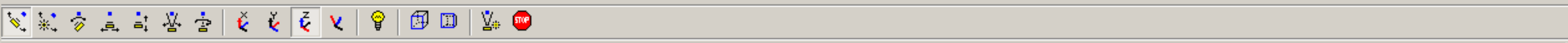
← →

Be Patient this works very slowly!

Alpha down		Alpha up	
Top slice	Alpha	Bottom slice	Alpha
84	1	84	1
1	0.5	1	0.5
1	0	1	0

Update





Choose peak(s) to plot

- 69.07
- 70.03
- 71.05
- 73.06
- 75.04
- 77.03
- 79.05
- 83.08
- 83.94
- 85.06
- 85.10
- 91.05
- 101.05
- 105.05

☐ Check Box To Smooth Data For Display

☐ Use Axis Labels

Choose Colormap

Hot

Choose Background Color

Current BG color

View in 3D

Multicolor Overlay Panel

Close Panel

Check which axes you want to rotate around

☐ X ☐ Y ☐ Z

Number of degrees for rotation

360

Preview

Create 3D Movie

Tools To Isolate Specific Voxel Intensities

Use the sliders below to select the intensity range that you want to isolate in the 3d plot. Then hit the update button.

NOTE: The value of Min cannot be more than Max

MIN 1
MAX 9

Choose Color

Current color

Update

Rotation and Scaling Options

0 Rotate Left/Right 360

Horizontal Rotation= 322.5

0 Rotate Up/Down 360

Vertical Elevation= 30

100
Z scale factor = 1
0

Take Snap Shot

Make Ext

Unfold Data

Find Corr Data

Transparency Options

Be Patient This Works Very Slowly!

Alpha down

Top slice
84
1
1

Alpha
1
0.5
0

Alpha up

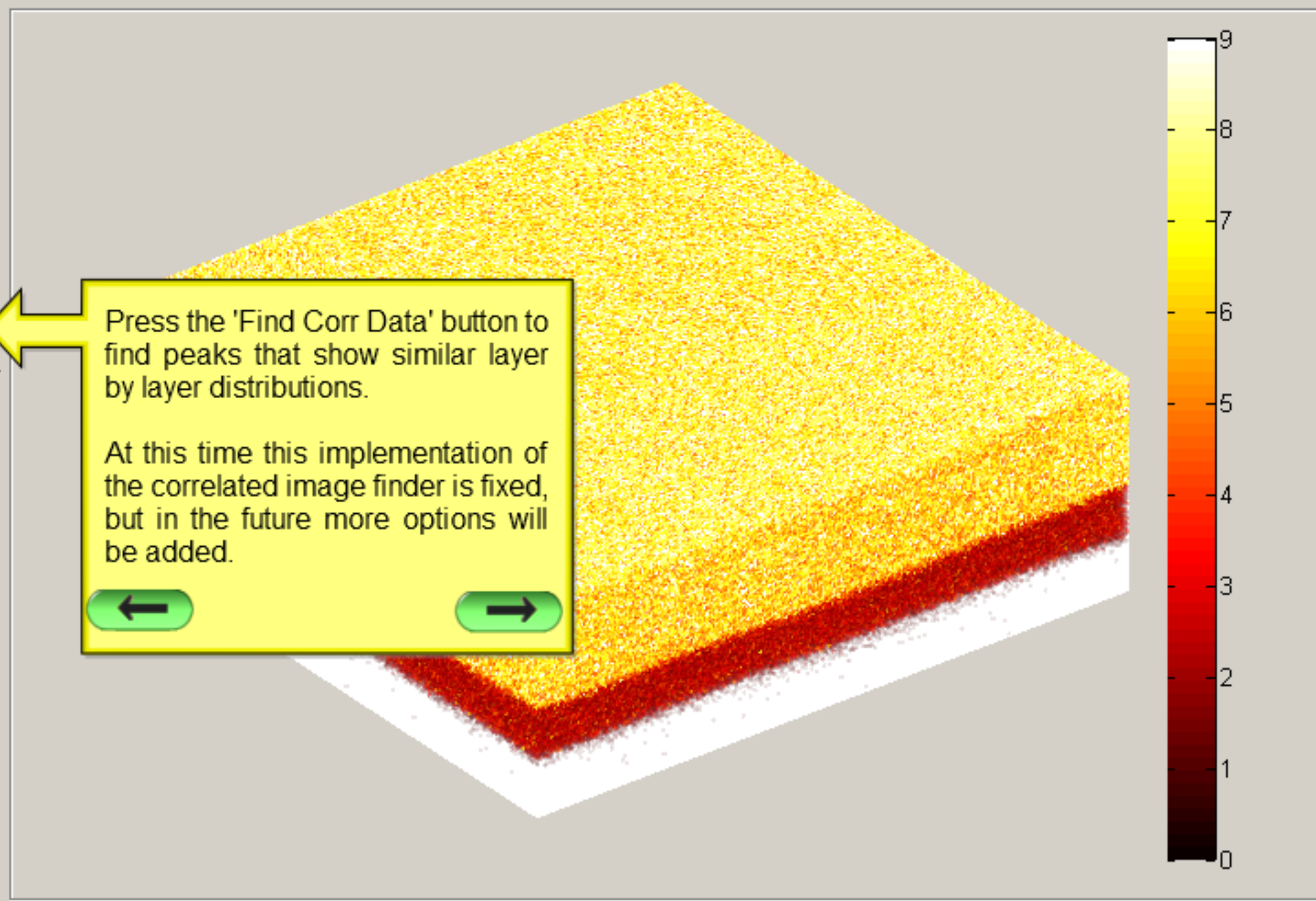
Bottom slice
84
1
1

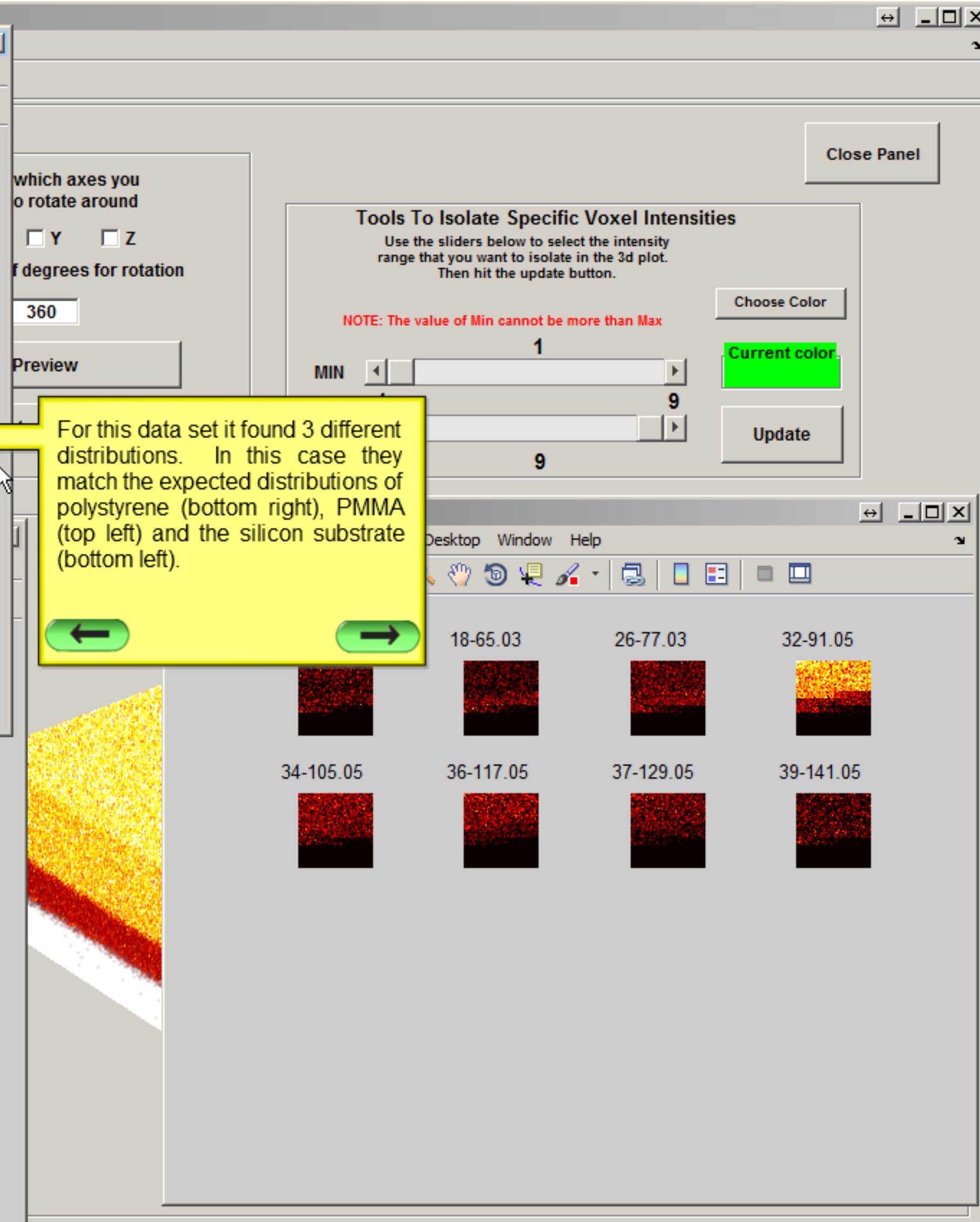
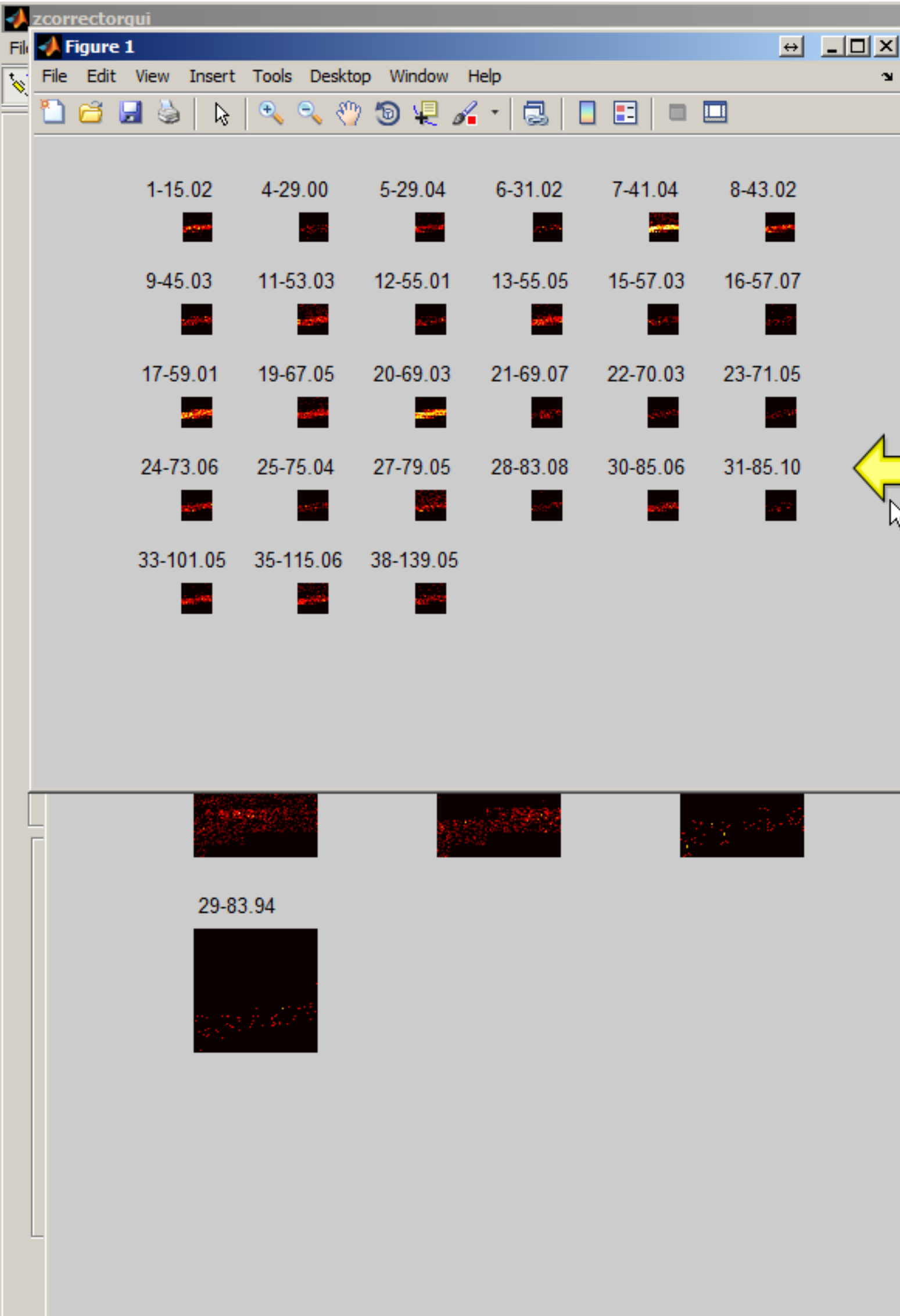
Alpha
1
0.5
0

Update

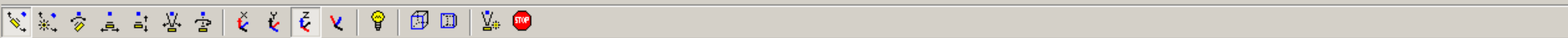
Press the 'Find Corr Data' button to find peaks that show similar layer by layer distributions.

At this time this implementation of the correlated image finder is fixed, but in the future more options will be added.





For this data set it found 3 different distributions. In this case they match the expected distributions of polystyrene (bottom right), PMMA (top left) and the silicon substrate (bottom left).



Choose peak(s) to plot

- 69.07
- 70.03
- 71.05
- 73.06
- 75.04
- 77.03
- 79.05
- 83.08
- 83.94
- 85.06
- 85.10
- 91.05
- 101.05
- 105.05

☐ Check Box To Smooth Data For Display

☐ Use Axis Labels

Choose Colormap

Hot

Choose Background Color

Current

Multicol

Check which axes you want to rotate around

☐ X ☐ Y ☐ Z

Number of degrees for rotation

360

Tools To Isolate Specific Voxel Intensities

Use the sliders below to select the intensity range that you want to isolate in the 3d plot. Then hit the update button.

NOTE: The value of Min cannot be more than Max

MIN 1
MAX 9

Choose Color

Current color

Update

That ends this tutorial. Press the button on the left to go back to the previous step. Press the button on the right to start the tutorial over.

Please see the other zcorrectorgui tutorials for detailed information on how to use each function in the imagegui.



Rotation and Scaling Options

0 Rotate Left/Right 360

Horizontal Rotation= 322.5

0 Rotate Up/Down 360

Vertical Elevation= 30

100

Z scale

0

Unfold Data

Find Corr Data

Transparency Options

Be Patient This Works Very Slowly!

Alpha down

Top slice

Alpha

Bottom slice

Alpha up

Alpha

84

1

84

1

1

0.5

1

0.5

1

0

1

0

Update

