

Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

This tutorial contains navigation buttons that enable you to move throughout the tutorial.
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.



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

This tutorial will cover how to use the correlated image finder. The correlated image finder allows the user to find images that show similar lateral distributions within an imaging data set. It can be used with any image data set.

This tutorial assumes you have already imported your data into the imagegui. See the tutorials on how to import data if you have questions on how to get your data into the imagegui.



Name of Image M
imagedata_PEGPS

- PCA
- Export PCA data
- MAF
- Export MAF data
- Dice/Classify Image
- MCR
- Correlated Image Finder**
- MIA

Data Selection Panel

le Matrix

PS_...

From the 'MVA' menu choose the 'Correlated Image Finder'.

← →

Data Selection Panel

Name of Image Matrix

Name of Variable Matrix

Load Selected Data

Choose the data you want to use from the drop down menus above and press 'Load Selected Data'.

Currently Loaded
Data: None
Variables: None

Labels to use:

Tolerance value for match (0 to 1)

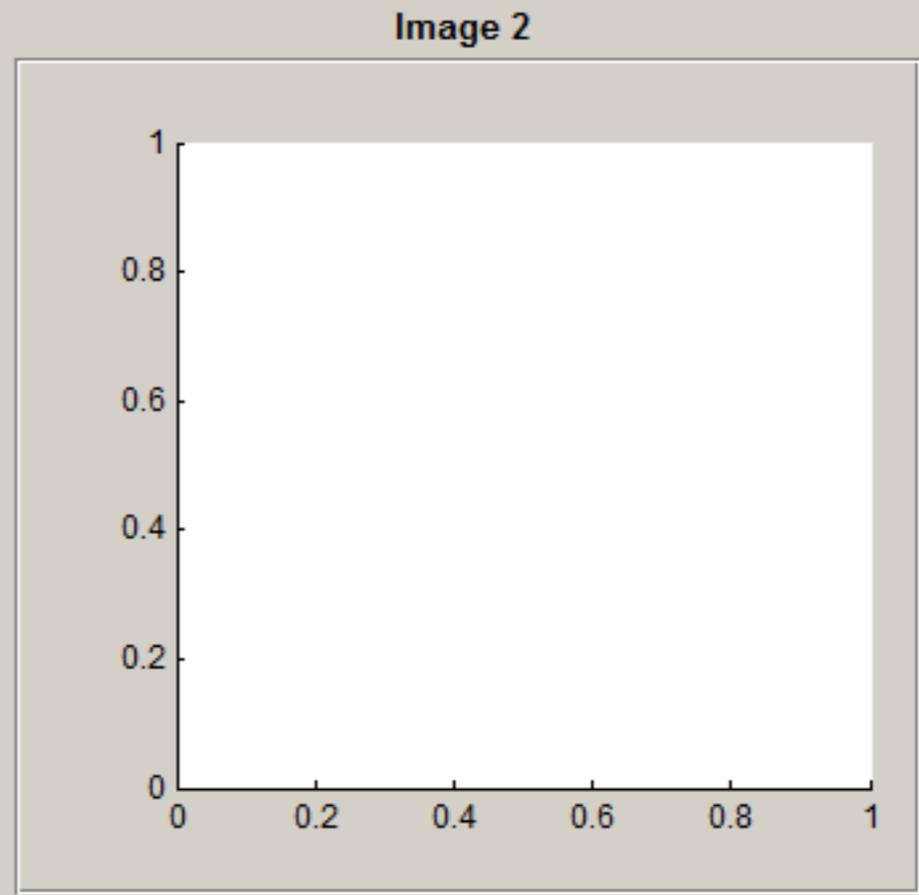
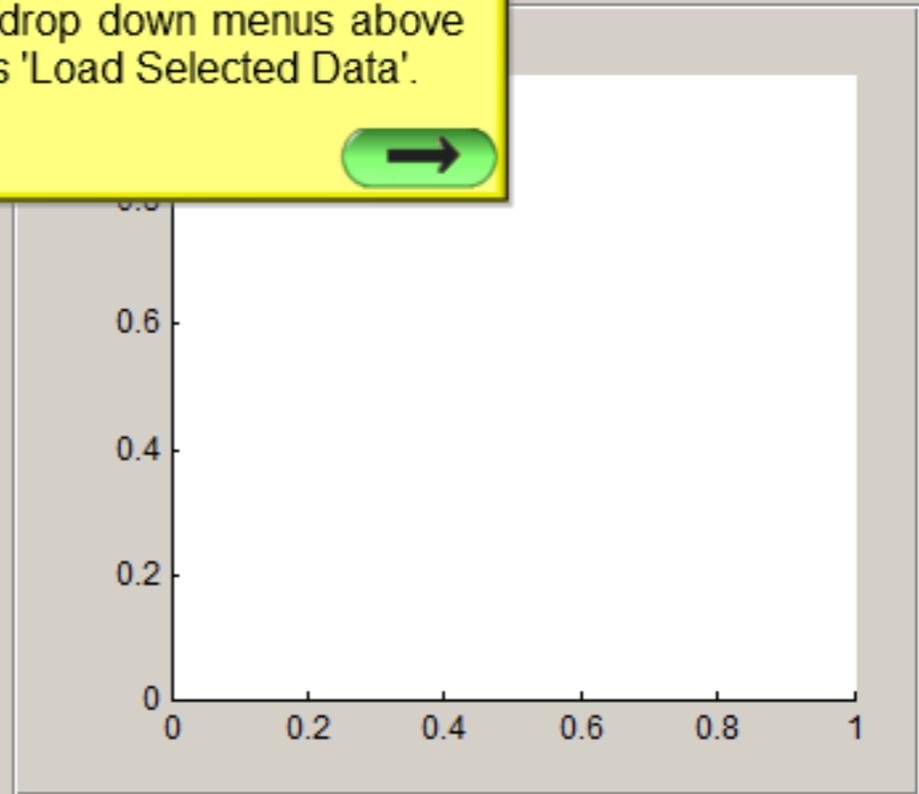
Choose method

Find Correlated Images

Image 1

Image 2

Correlated with >>>



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

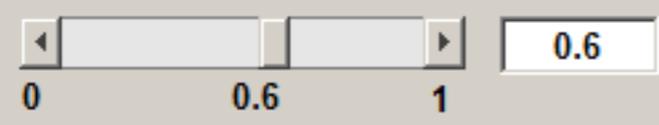
Load Selected Data

Currently Loaded

Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

Labels to use:

Tolerance value for match (0 to 1)



Choose method

Find Correlated Images

Image 1

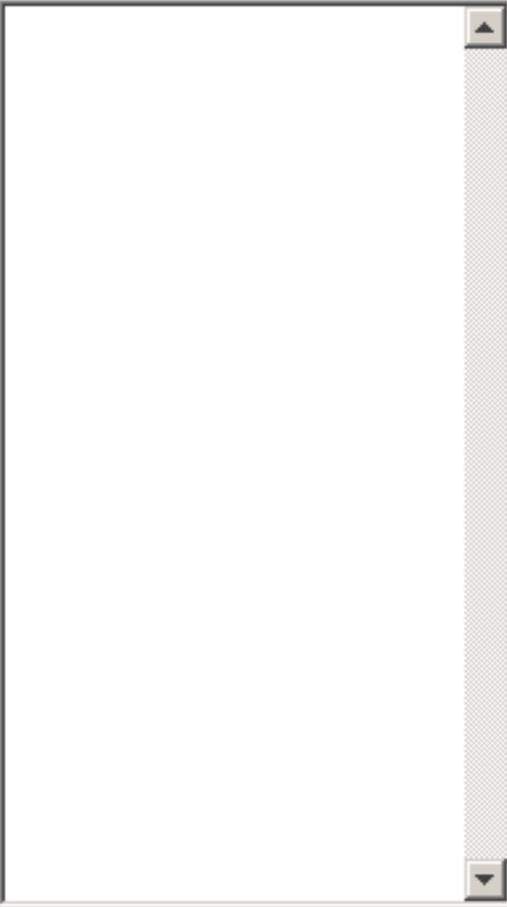
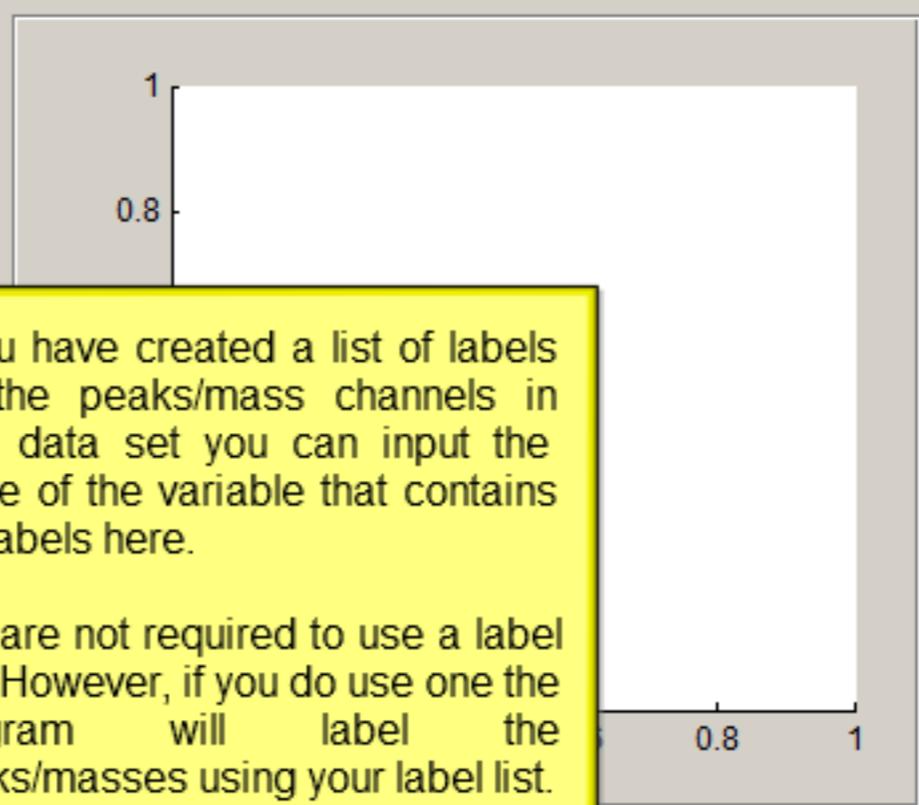


Image 2



Correlated with >>>

Image 1



If you have created a list of labels for the peaks/mass channels in your data set you can input the name of the variable that contains the labels here.

You are not required to use a label list. However, if you do use one the program will label the peaks/masses using your label list.

In this example, I will not use a label list.

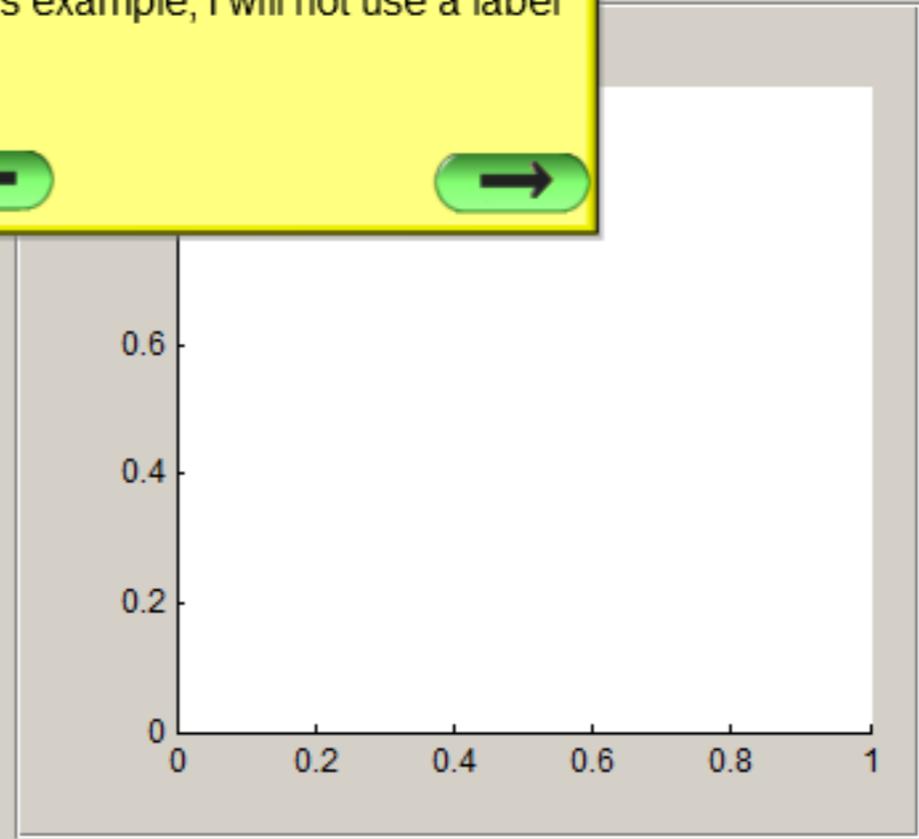
Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: imagedata_PEGPS_07
Variables: exactmass_PEGPS_07

Labels to use:

Tolerance value for match (0 to 1)



Choose method

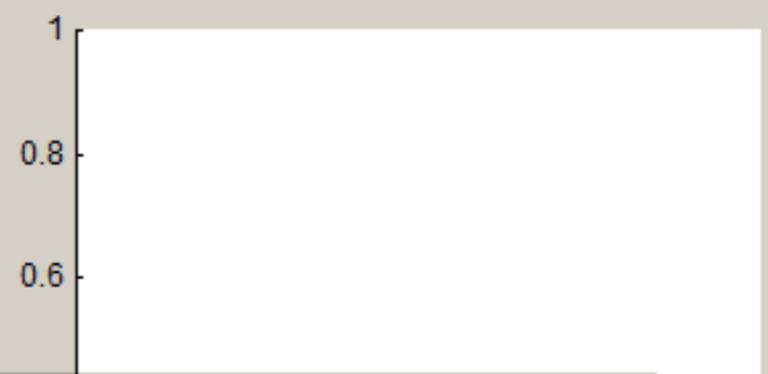
Find Correlated Images

Image 1

Image 2

Correlated with >>>

Image 1



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

The tolerance value sets the cut off for considering image matches. The tolerance ranges from 0 to 1, where 0 basically means all images will match, and 1 requires a perfect match. The higher the value, the more likley you will end up with isolated images with no matches.

A good starting value is 0.6. Increasing the tolerance will result in better matches between images, but can also result in missing potential matches if the tolerance is too high.

For the 2-D correlation coefficient the tolerance represents the correlation coefficient value above which an image pair is considered a match.

For the subtraction method the tolerance represents the percentage of zero pixels above which an image pair is considered a match.



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: imagedata_PEGPS_07
Variables: exactmass_PEGPS_07

Labels to use:

Tolerance value for match (0 to 1)

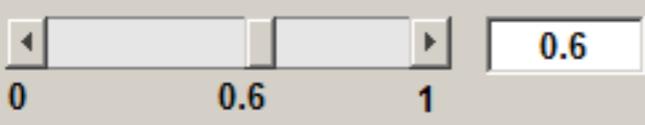
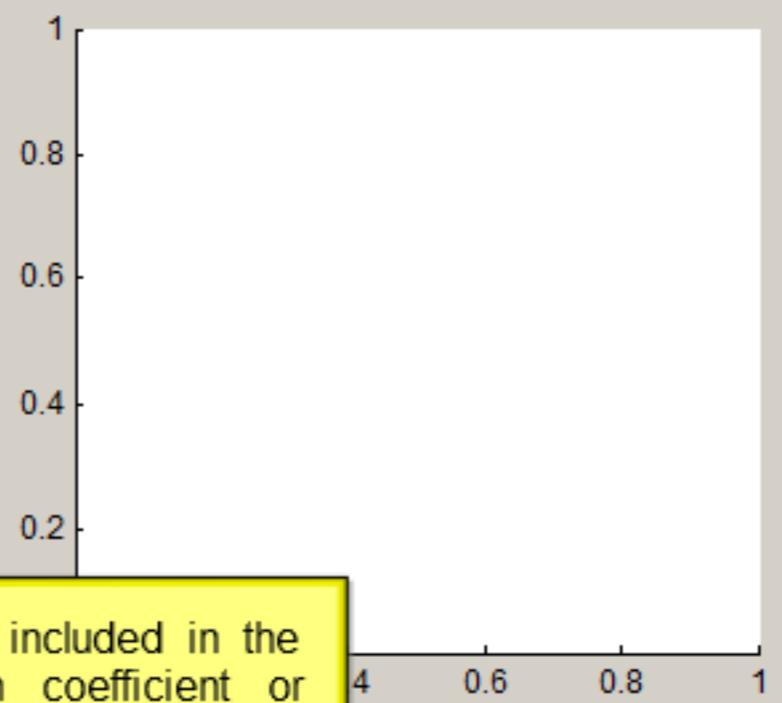


Image 1



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

Choose method

- Choose method
- 2-D correlation coefficient
- Image subtraction**

Field Co

There are two methods included in the toolbox, 2-D correlation coefficient or image subtraction. In testing, both methods result in almost identical results. I left both methods in to give the user options.

The 2-D correlation coefficient uses the Matlab corr2 function to calculate the 2D correlation coefficient between each pair of images. A higher correlation coefficient means the images are more similar.

Image subtraction is just that. Each pair of images is subtracted pixel by pixel and the percentage of zeros is calculated. A higher percentage of zeros means the images are more similar.

Correlated with >>>



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

Labels to use:

Tolerance value for match (0 to 1)

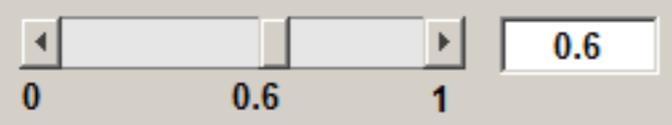


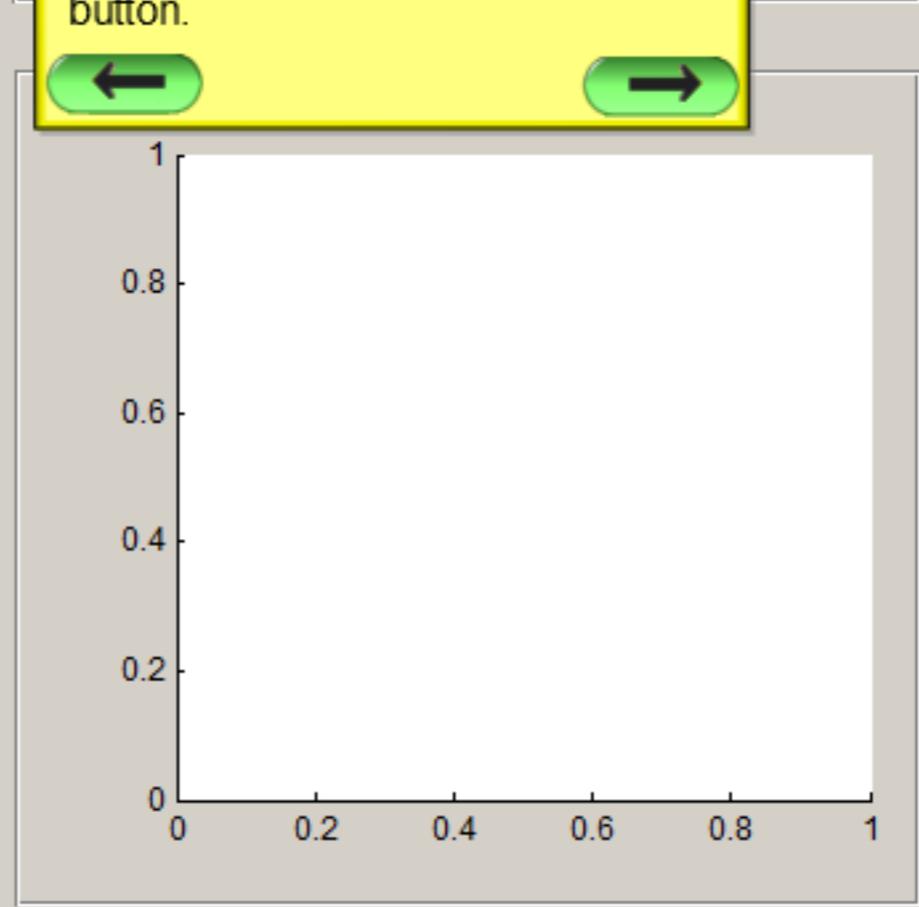
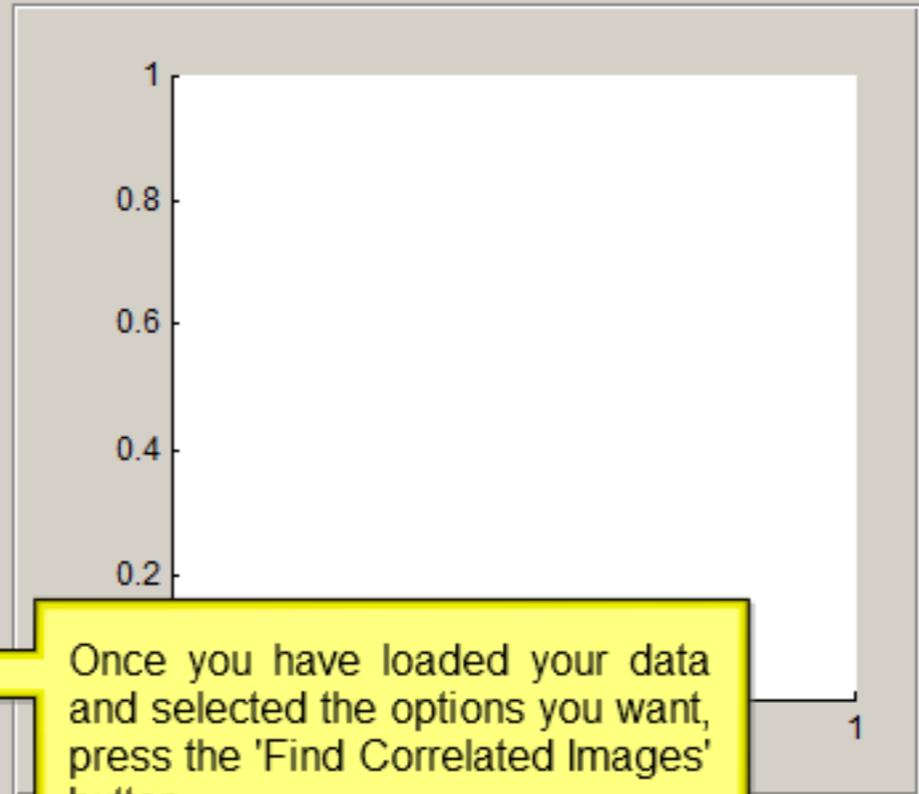
Image subtraction

Find Correlated Images



Correlated with >>>

Image 1



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

Once you have loaded your data and selected the options you want, press the 'Find Correlated Images' button.



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

Labels to use:

Tolerance value for match (0 to 1)

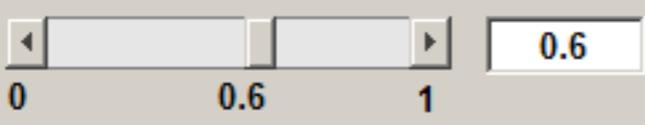


Image subtraction

Find Correlated Images

Image 1

Image 2

- 13.0086-Unknown
- 18.9985-Unknown
- 34.9697-Unknown

The first mass in any image groups found will be listed here.



Correlated with >>>

Image 1

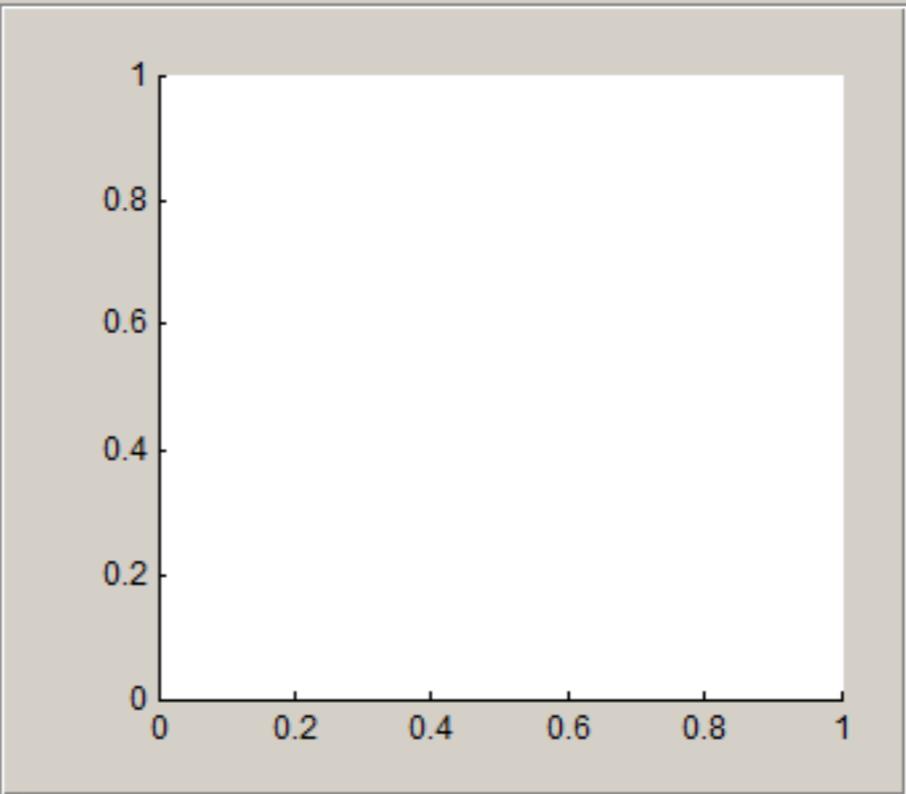
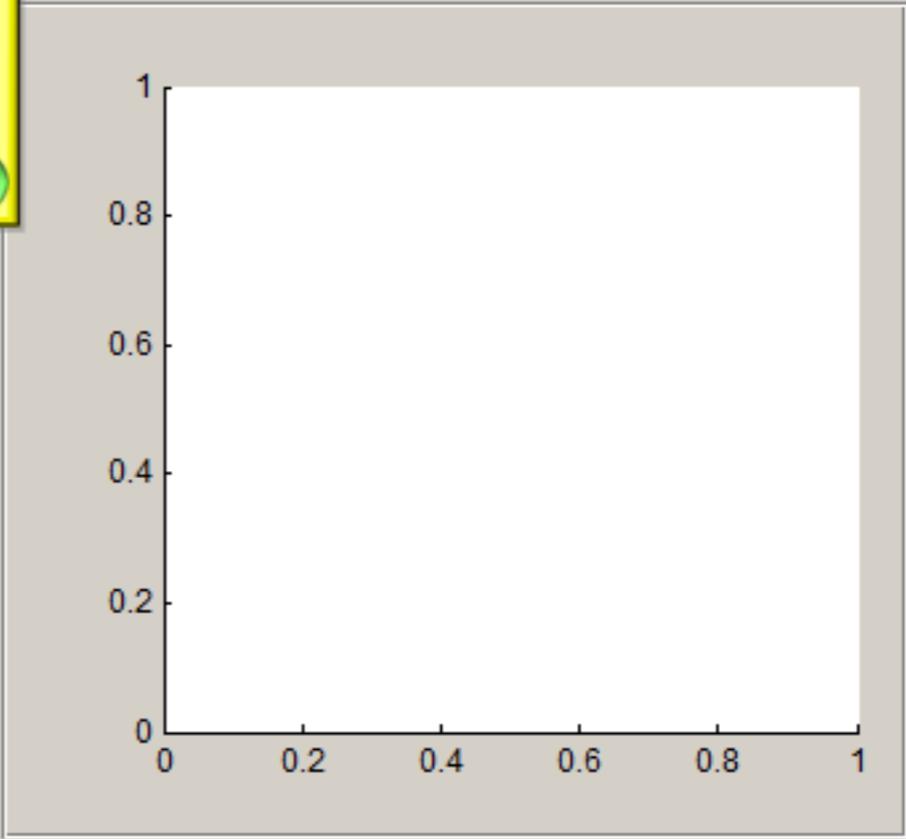


Image 2



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

Data Selection Panel

Name of Image Matrix: Name of Variable Matrix:

Currently Loaded
Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

Labels to
Tolerance

If you click on any mass in the 'Image 1' list it will display the image here, and will populate a list of all matching masses in the 'Image 2' list.

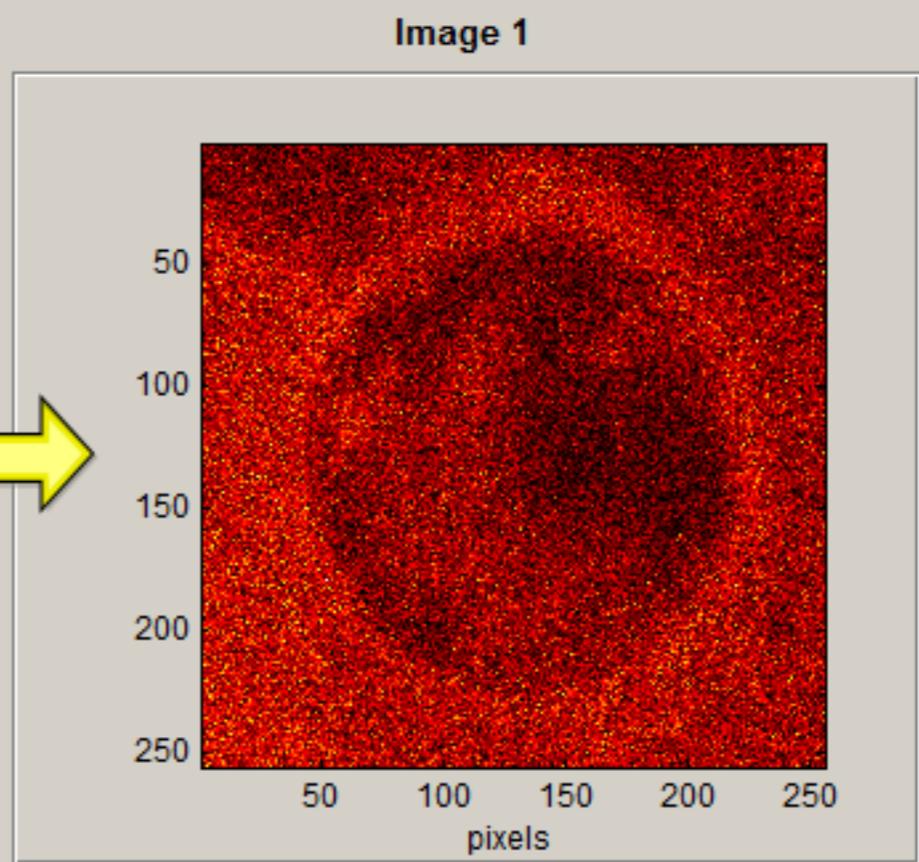


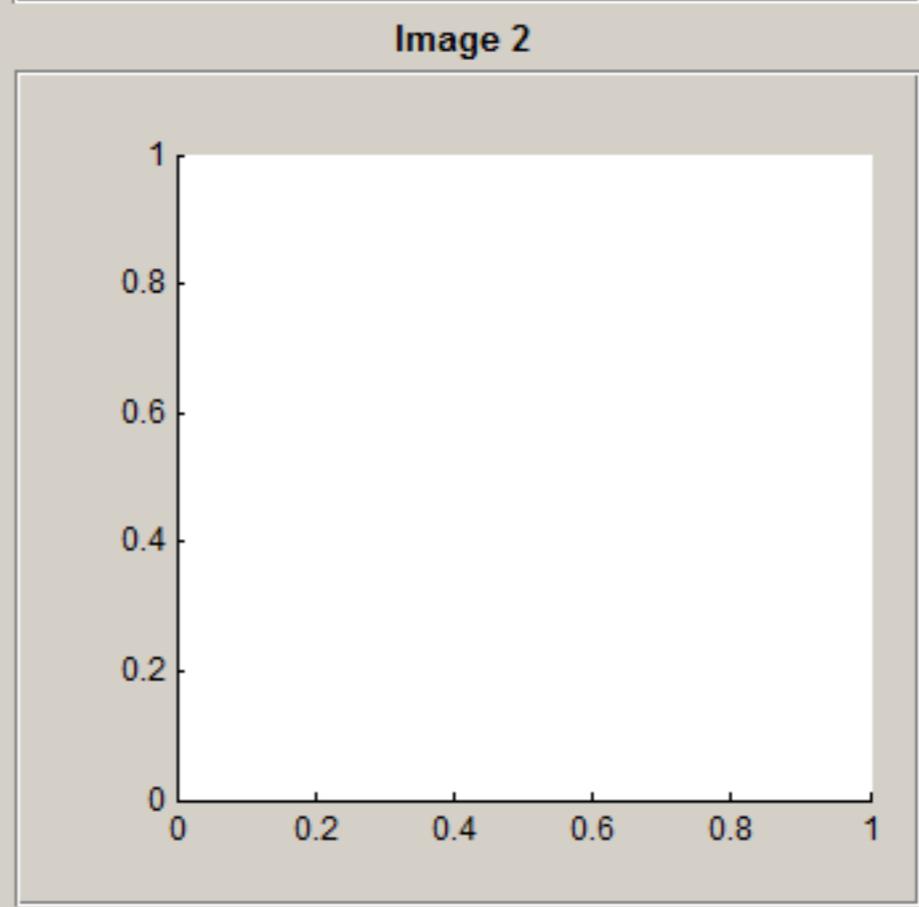
Image 1

- 13.0086-Unknown
- 18.9985-Unknown
- 34.9697-Unknown

Image 2

Correlated with >>>

- 25.0083-Unknown
- 27.9764-Unknown
- 29.0035-Unknown
- 31.0197-Unknown
- 37.0082-Unknown
- 38.0159-Unknown
- 39.0251-Unknown
- 39.9952-Unknown
- 41.0043-Unknown
- 42.0081-Unknown
- 43.0217-Unknown
- 43.9734-Unknown
- 44.9984-Unknown
- 51.0249-Unknown
- 53.0035-Unknown
- 54.0118-Unknown
- 55.0209-Unknown
- 56.0257-Unknown
- 56.9999-Unknown
- 57.0377-Unknown
- 58.0089-Unknown



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: imagedata_PEGPS_07
Variables: exactmass_PEGPS_07

Labels to use:

Tolerance value for match (0 to 1)

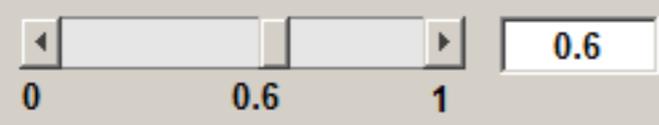


Image subtraction

Find Correlated Images

Image 1

- 13.0086-Unknown
- 18.9985-Unknown
- 24.9697-Unknown

Image 2

- 25.0083-Unknown
- 27.9764-Unknown
- 29.0025-Unknown
- 30.0025-Unknown
- 31.0025-Unknown
- 32.0025-Unknown
- 33.0025-Unknown
- 34.0025-Unknown
- 35.0025-Unknown
- 36.0025-Unknown
- 37.0025-Unknown
- 38.0025-Unknown
- 39.0025-Unknown
- 40.0025-Unknown
- 41.0025-Unknown
- 42.0025-Unknown
- 43.0025-Unknown
- 44.9984-Unknown
- 51.0249-Unknown
- 53.0035-Unknown
- 54.0118-Unknown
- 55.0209-Unknown
- 56.0257-Unknown
- 56.9999-Unknown
- 57.0377-Unknown
- 58.0089-Unknown

If you click on any mass in the 'Image 2' list it will display the selected image in the 'Image 2' box on the right.



Image 1

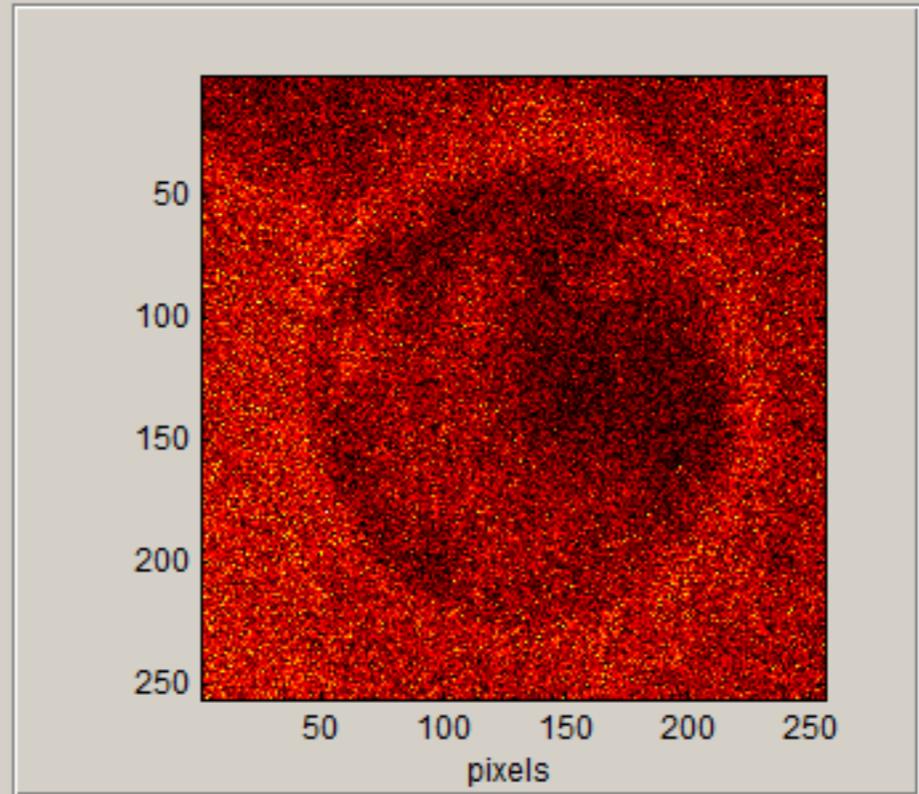
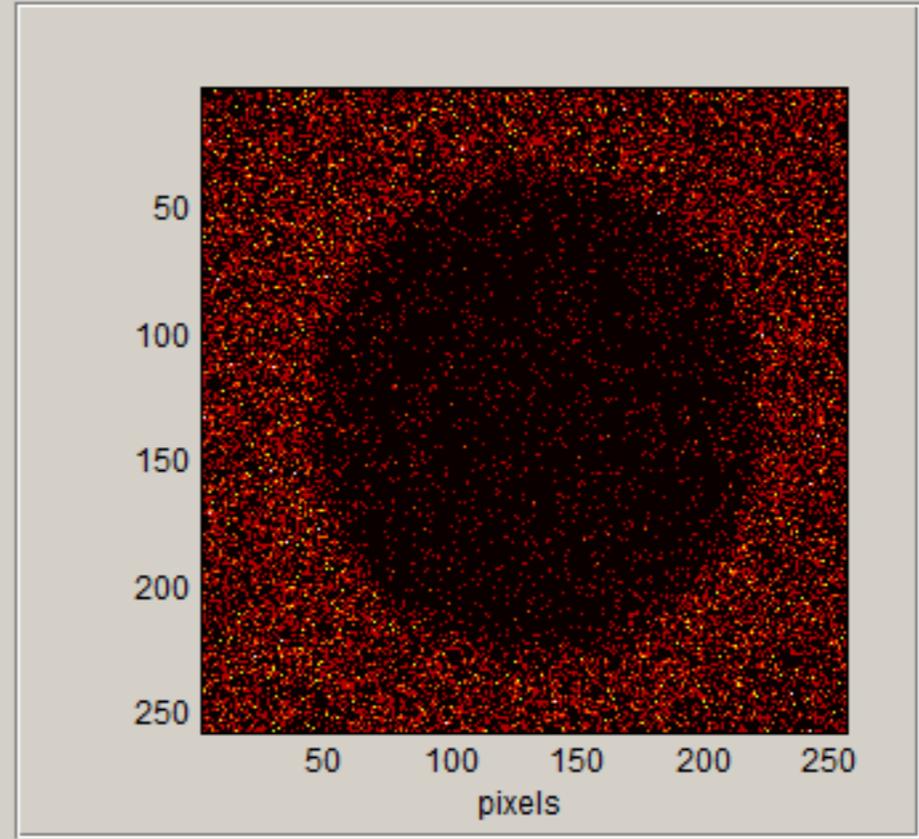


Image 2



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

Data Selection Panel

Name of Image Matrix: Name of Variable Matrix:

Currently Loaded
Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

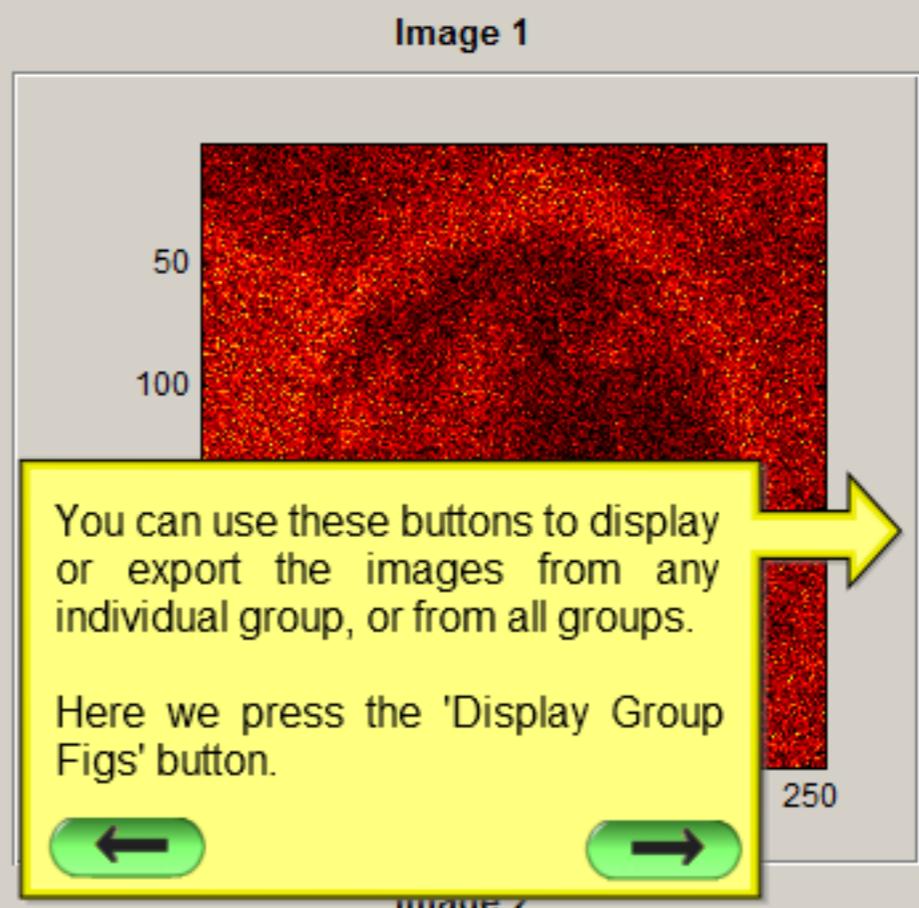
Labels to use:

Tolerance value for match (0 to 1)

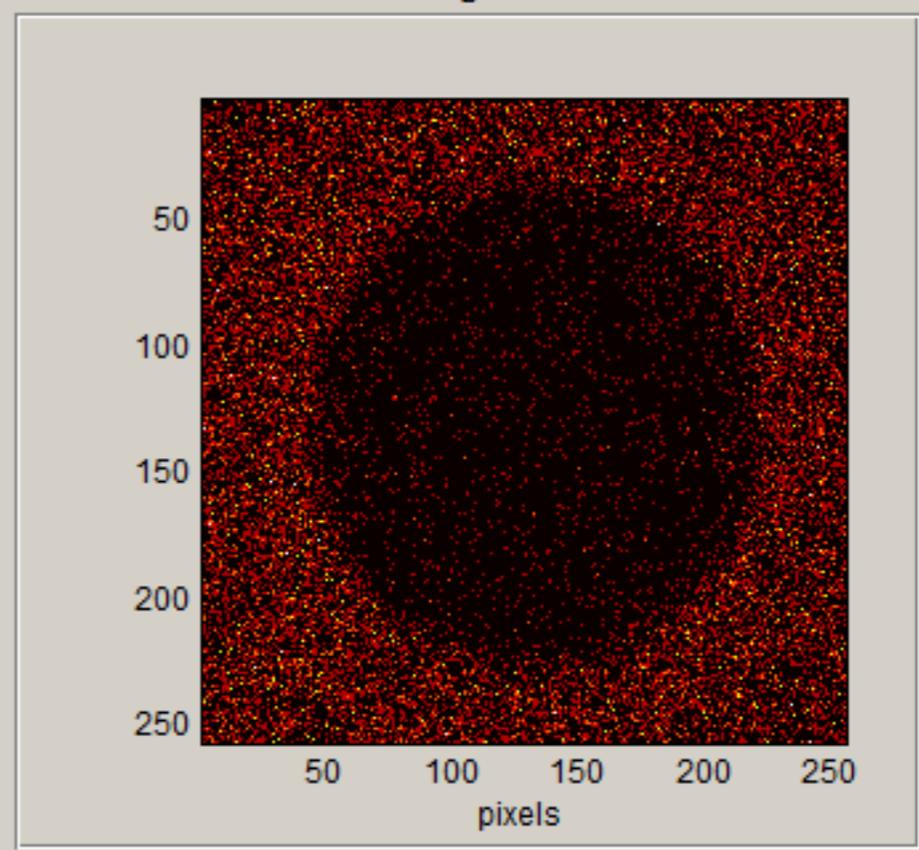
- Image 1
- 13.0086-Unknown
 - 18.9985-Unknown
 - 34.9697-Unknown

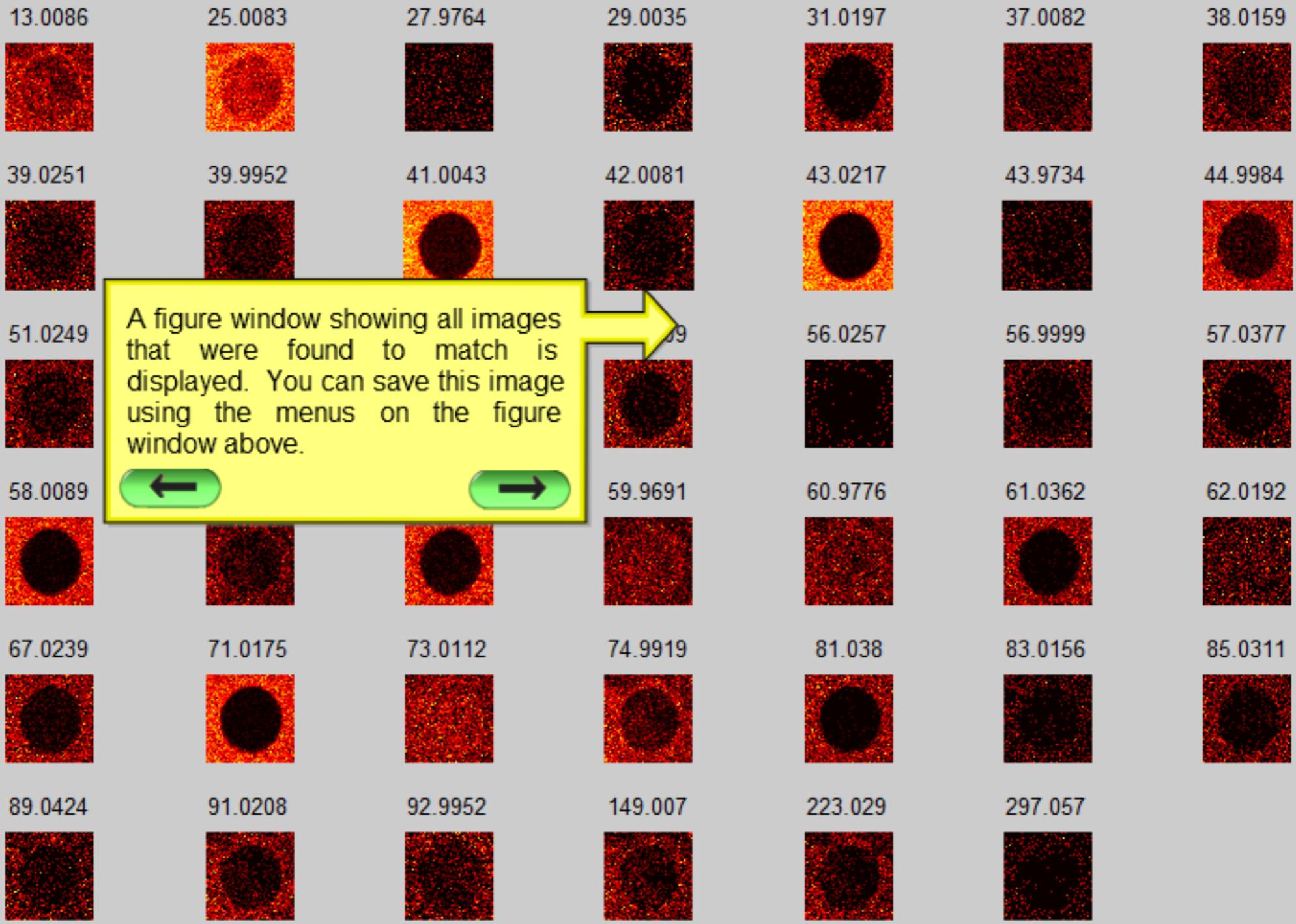
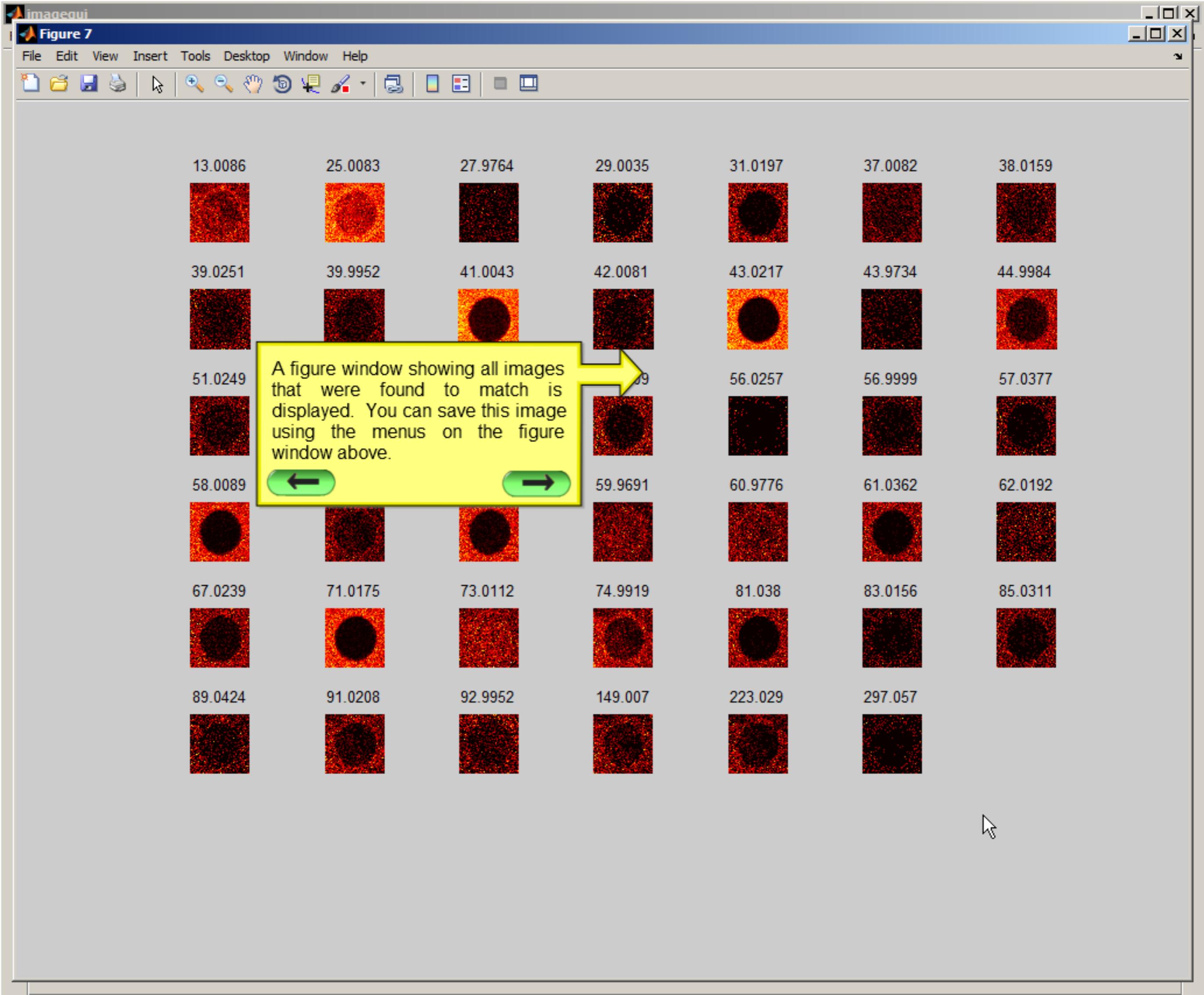
Correlated with >>>

- Image 2
- 25.0083-Unknown
 - 27.9764-Unknown
 - 29.0035-Unknown
 - 31.0197-Unknown
 - 37.0082-Unknown
 - 38.0159-Unknown
 - 39.0251-Unknown
 - 39.9952-Unknown
 - 41.0043-Unknown
 - 42.0081-Unknown
 - 43.0217-Unknown
 - 43.9734-Unknown
 - 44.9984-Unknown
 - 51.0249-Unknown
 - 53.0035-Unknown
 - 54.0118-Unknown
 - 55.0209-Unknown
 - 56.0257-Unknown
 - 56.9999-Unknown
 - 57.0377-Unknown
 - 58.0089-Unknown



-
-
-
-
-





A figure window showing all images that were found to match is displayed. You can save this image using the menus on the figure window above.



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: imagedata_PEGPS_07
Variables: exactmass_PEGPS_07

Labels to use:

Tolerance value for match (0 to 1)



Image subtraction

Find Correlated Images

Image 1

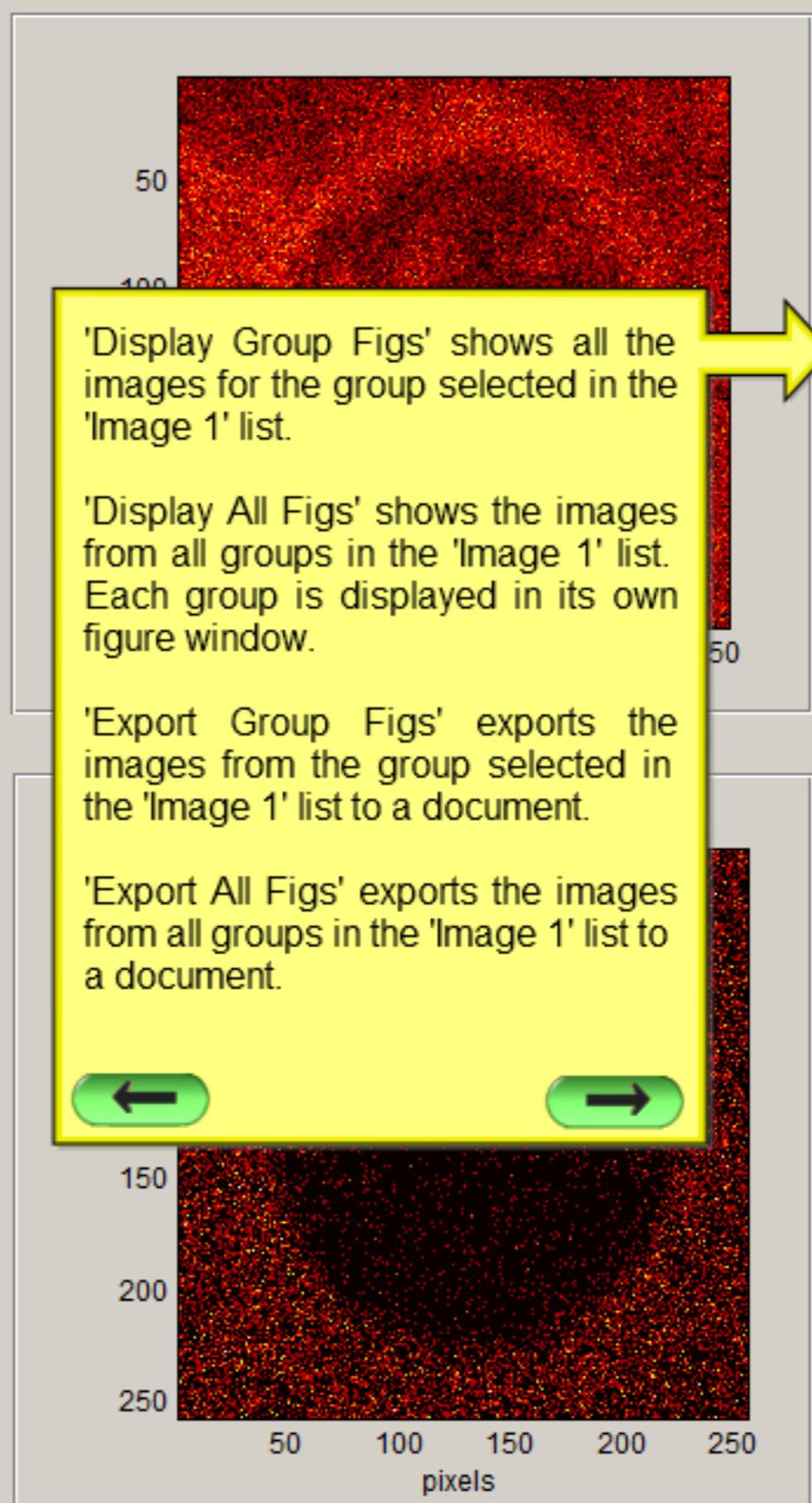
- 13.0086-Unknown
- 18.9985-Unknown
- 34.9697-Unknown

Image 2

- 25.0083-Unknown
- 27.9764-Unknown
- 29.0035-Unknown
- 31.0197-Unknown
- 37.0082-Unknown
- 38.0159-Unknown
- 39.0251-Unknown
- 39.9952-Unknown
- 41.0043-Unknown
- 42.0081-Unknown
- 43.0217-Unknown
- 43.9734-Unknown
- 44.9984-Unknown
- 51.0249-Unknown
- 53.0035-Unknown
- 54.0118-Unknown
- 55.0209-Unknown
- 56.0257-Unknown
- 56.9999-Unknown
- 57.0377-Unknown
- 58.0089-Unknown

Correlated with >>>

Image 1



'Display Group Figs' shows all the images for the group selected in the 'Image 1' list.

'Display All Figs' shows the images from all groups in the 'Image 1' list. Each group is displayed in its own figure window.

'Export Group Figs' exports the images from the group selected in the 'Image 1' list to a document.

'Export All Figs' exports the images from all groups in the 'Image 1' list to a document.

- Display Group Figs
- Display All Figs
- Export Group Figs
- Export All Figs
- Close Panel

Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

Load Selected Data

Currently Loaded

Data: **imagedata_PEGPS_07**
Variables: **exactmass_PEGPS_07**

Labels to use:

Tolerance value for match (0 to 1)

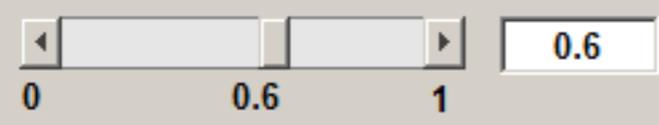


Image subtraction

Find Correlated Images

Image 1

- 13.0086-Unknown
- 18.9985-Unknown
- 34.9697-Unknown

Image 2

- 25.0083-Unknown
- 27.9764-Unknown
- 29.0035-Unknown
- 31.0197-Unknown
- 37.0082-Unknown
- 38.0159-Unknown
- 39.0251-Unknown
- 39.9952-Unknown
- 41.0043-Unknown
- 42.0081-Unknown
- 43.0217-Unknown
- 43.9734-Unknown
- 44.9984-Unknown
- 51.0249-Unknown
- 53.0035-Unknown
- 54.0118-Unknown
- 55.0209-Unknown
- 56.0257-Unknown
- 56.9999-Unknown
- 57.0377-Unknown
- 58.0089-Unknown

Correlated with >>>

Image 1

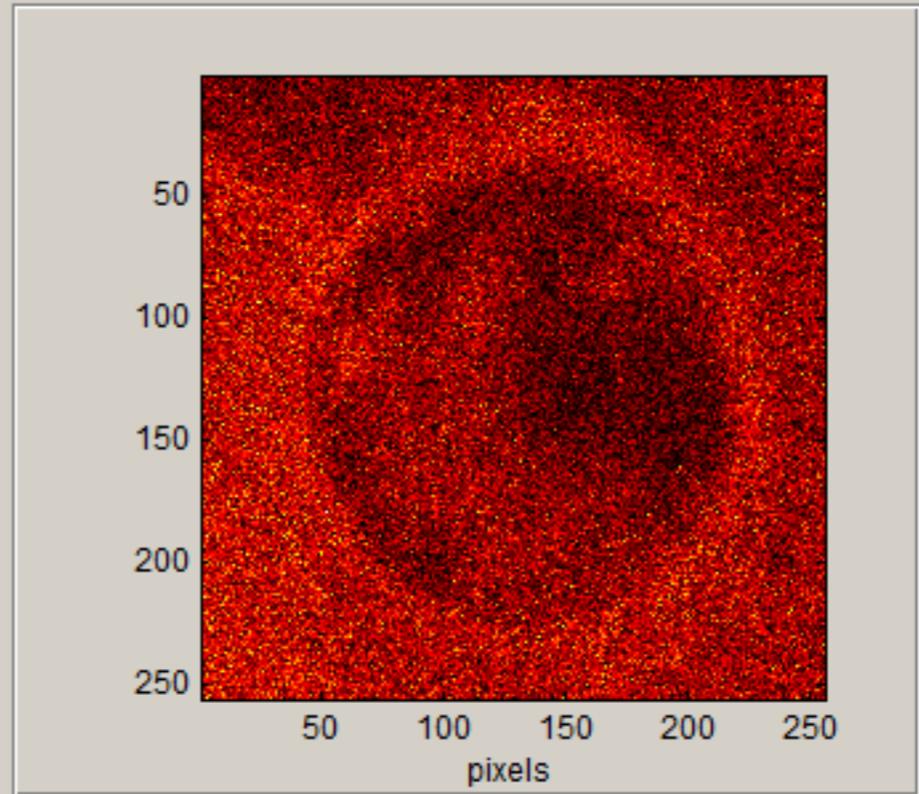
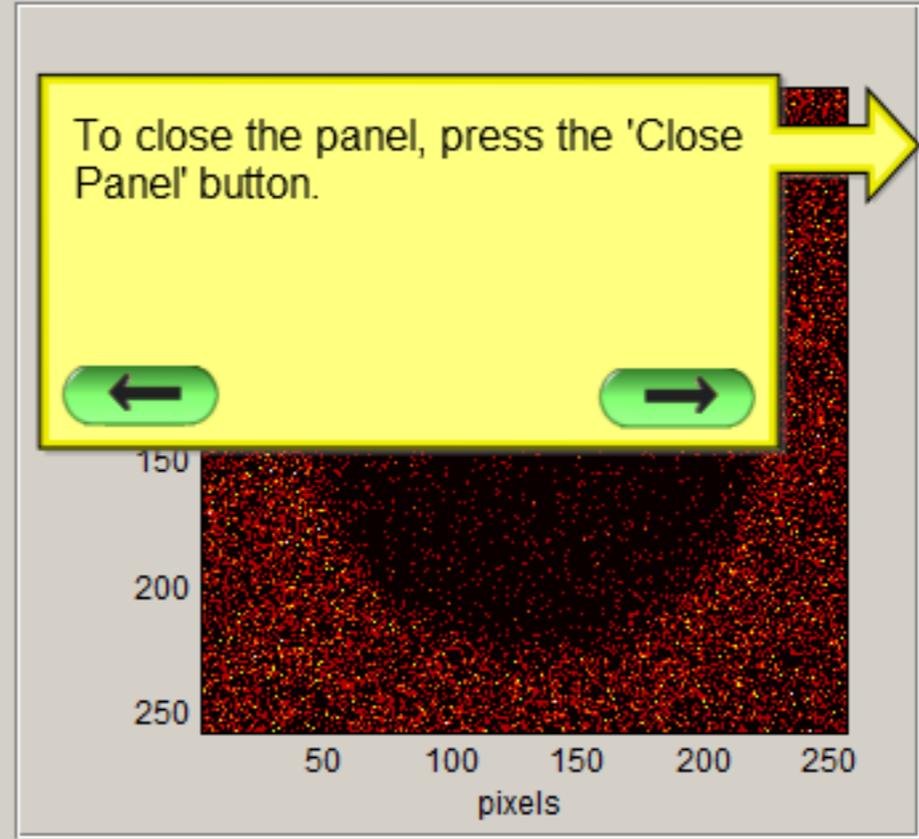


Image 2



Display Group Figs

Display All Figs

Export Group Figs

Export All Figs

Close Panel

To close the panel, press the 'Close Panel' button.



Data Selection Panel

Name of Image Matrix

imagedata_PEGPS...

Name of Variable Matrix

exactmass_PEGPS_...

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 imagegui tutorials for detailed information on how to use each function in the imagegui.

