This tutorial will cover how to import data from the Matlab workspace into the zcorrectorgui.

For this to work, the matlab variables containing the data must be named and formatted exactly as shown in this tutorial. If they are not, the import will not work.

The zcorrectorgui works with peak area images selected and exported from the instrument software. It cannot read raw data and only works with peak area images.

A lot of users can export the data for each slice into .bil or .bil6 files and import them directly into the zcorrectorgui. This is described in the tutorial "Zcorrectorgui_01_MainPage.pdf".

PHI is working on an importer that will enable PHI users to get their data into matlab.

In the meantime, if you can get your data into Matlab and format it as described in this tutorial, you can import your data from the workspace and then use the zcorrectorgui.
There are two required variables for the zcorrector gui:
- `activatedata` and `maxis`.

- `activatedata` is a cell array that contains the total counts image and peak area images for each slice in the depth profile.
- `maxis` contains the masses of the selected peaks in a character array.
Let's look at the format of 'activatedata'.

```matlab
>> activatedata
```
Each cell of 'activatedata' contains the total counts image and peak area images for a slice from the depth profile. The slices are ordered as they were collected (cell 1 = slice 1 = first image set, cell 2 = slice 2 = second image set after first sputter cycle, etc). In this data set there are 86 slices.

The image matrices in each cell are all in their folded form (pixel size x pixel size x #01 images). All image matrices for each slice are organized in this order:

- totalcounts image
- peak area image 1
- peak area image 2
- peak area image #...

The totalcounts image must be the first image in the stack.

'activatedata' must be formatted as 8bit unsigned integers (uint8). If it is not formatted this way you will not be able to use the zoomrectgui. Unsigned imagers are used to avoid memory issues in MATLAB.
Now let's look at the format for the maxis variable.
'maxis' contains the peak masses for the peaks used to create the peak area images in 'activedata'.

This variable must be formatted as a character array. If you import the peak masses into MATLAB, you can convert them to characters by using the num2str function:

```matlab
maxis = num2str(maxis);
```
Once you have the 'activedata' and 'maxis' variables setup properly, you simply press the 'Load WS' button and the data is loaded into the zcorrectgui.
The data is loaded and you can now continue using the zcorrector as described in the other tutorials.
That's it for this tutorial.

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