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MATLAB MRI-MSOT landmark-based Coregistration method

1. Click on MSOT\_MRI registration.m
2. In the pop-up window choose the MRI image in the input folder, in the next pop-up window chose the MSOT background stack image in the input folder
3. In the matlab command window will apear a line “select which slice you want to do transform”
4. Write 1 or other numbers accordingly.

One line will apear in the commend window

“transforming location identified\n”

1. In the pop-up control point selection window click and select landmarks on the left and right panel for coregistration.
2. Click on File, chose “export points to work space” and write input\_points & base\_points in the blank.

In the commend window two lines will appear

“base\_points & input\_points saved?

Variables have been created in the base workspace.”

1. Variables have been created in the base workspace. Two folders will be created automatically “reference MRI” and “reference MSOT”
2. Will be a line ask “Do you want to apply the same transform to a new MSOT dataset? Y/N [Y]” answer Y if want and N if not.

If answer Y: a pop-up window will open for choosing the dataset image. The same transformation used for background will be applied to the image selected.

Afterward another line will appear in the commend window asking for

“ Name the new transformed MSOT data.”

The final result are separate folders with the transformed images (for example the Hb or the HbO2 images).

After the coregistration, imageJ or other software could be used for overlaying images or merging channels etc



