Stitching and Tiling (i880/u880)

Setup

1. Select "Tile Scan" in the Acquisition Menu.

2. Open the "Tile Scan" menu in the "Multidimensional Acquisition" area.

3. Select tiling method (see options below).

4. Optional: Put in an overlap percentage (10-20%) and tick Online Stitching.

   When Bi-directional is active, the image acquisition is performed also on the horizontal backwards movement of the stage.

5. To start tiling experiment, select "Start Experiment" in the Acquisition Menu.

   Note: Online stitching can only be activated when an overlap percentage is defined. If you choose not to choose online stitching, processing to stitch tiles will have to be performed.

Tiling Options

- Centered Grid – uses the current location of stage as the center

  a. Define size of grid: enter number of tiles desired

  b. Define a degree of overlap between tiles, then start tiling experiment.

- Bounding Grid – edges of sample are marked and tiling grid generated to encompass everything contained within the marked edge point

  a. While scanning an image, move the stage to each of 3 or 4 edges of desired tile view and add positions to create tile grid.

  b. Define overlap, then start tiling experiment.

- Convex Hull - The edges of a sample must be marked so a tiling grid can be generated to cover the area between the marked points. Unlike the bounding grid method, the convex hull method will exclude unnecessary tiles thereby finding the smallest tiling grid and allowing for faster data collection.

  a. While scanning an image, move the stage to edges of desired tile view and add positions to create a non-rectangular tile grid.

  b. Define overlap, then start tiling experiment.

Processing Unstitched Images

If Online Stitching was not checked in the Tile Scan menu, the images generated from the tile scan are not automatically stitched together.

1. Go to the Processing tab.
2. Choose the Stitch function.
3. Select the tiled image to stitch.
4. Set Correlation Threshold for stitching (metric of how strict the software will be when trying to match features across tiles) so that sample features that span across tiles are reconstructed correctly.
5. Click on Apply. This will create a new window with the reconstructed stitched image.
6. Save stitched image.