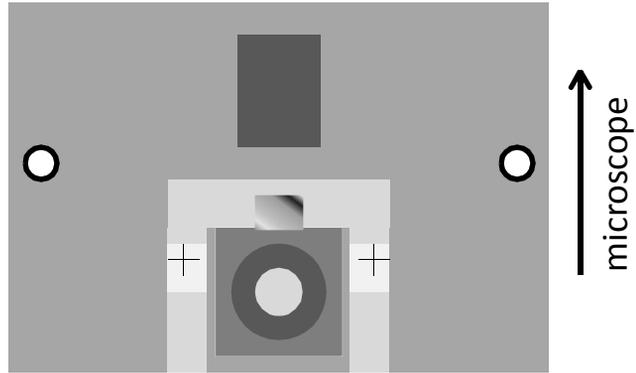


Mapping PEEM coordinates with Visible Light Microscopy

Step-by-step instructions

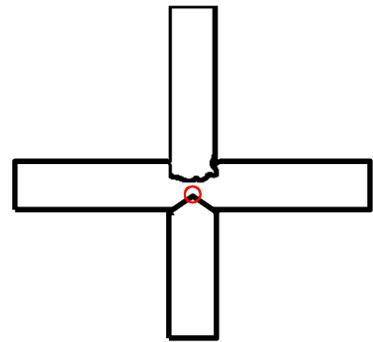
- Mount the sample in a sample holder
- Load the sample holder on the dock
- Mount the dock on the VLM in the orientation shown in the schematic at right
- Navigate to the cross scratch on the left (shown in schematic)
 - Align the microscope crosshairs with the point on the vertical line in the left cross scratch (red circle in schematic)
 - Zero the micrometer
- Navigate to the coordinates
 - (16.59 mm, -2.92 mm)
 - Zero the micrometer again
- Navigate to regions of interest
 - Align crosshairs with feature
 - Read PEEM coordinates, accurate within $\sim 100 \mu\text{m}$, off of the micrometer in mm

Sample Dock



When imaged with the VLM in this orientation, sample orientations are identical with respect to the VLM micrometer and the PEEM sample manipulator (+ X and +Y directions correspond)

Left cross scratch



PEEM Coordinates (μm)	VLM Coordinates (mm)
(-0.72, 2.75)	(15.85, -0.17)
(0.76, 0.75)	(17.36, -2.18)
(0, 0)	(16.59, -2.92)

Calibrated on 7/22/2015