

Progress Report 4

Mar. 9, 2017

Goal: pick out twin boundary region, and apply a different threshold in that region, for higher contrast

Trials:

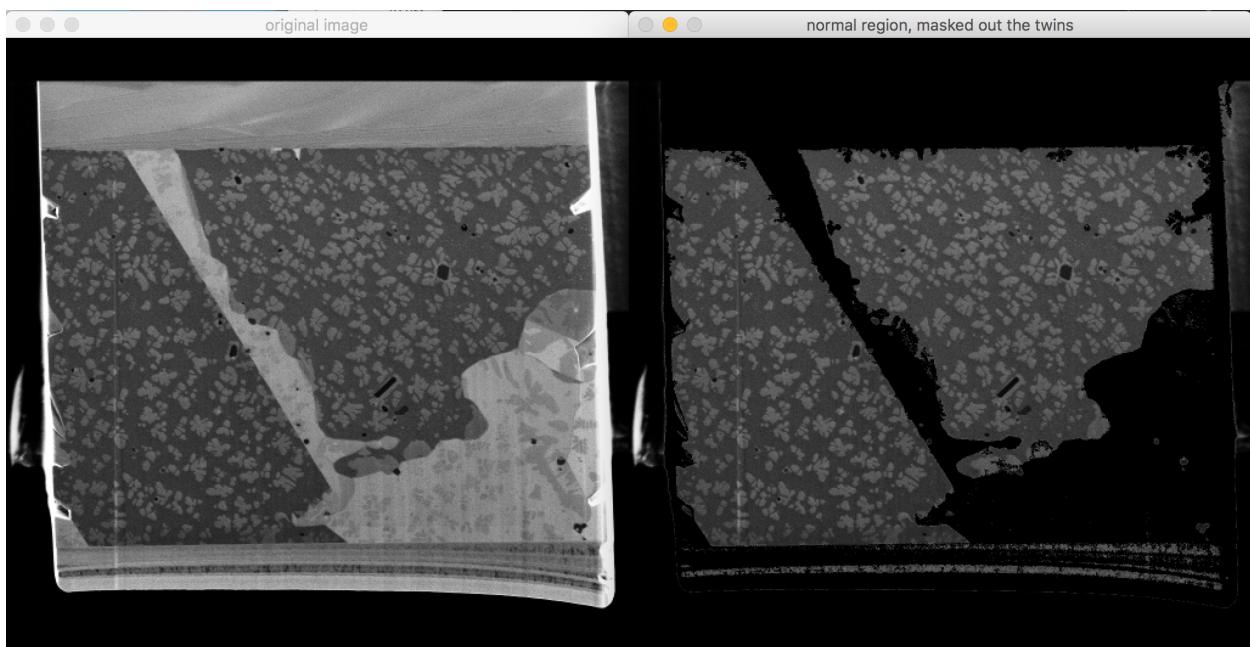
Part 1: new function “manip” that applies different functions, on diff parts of the image;

1. Apply binary threshold on normal regions of the image;

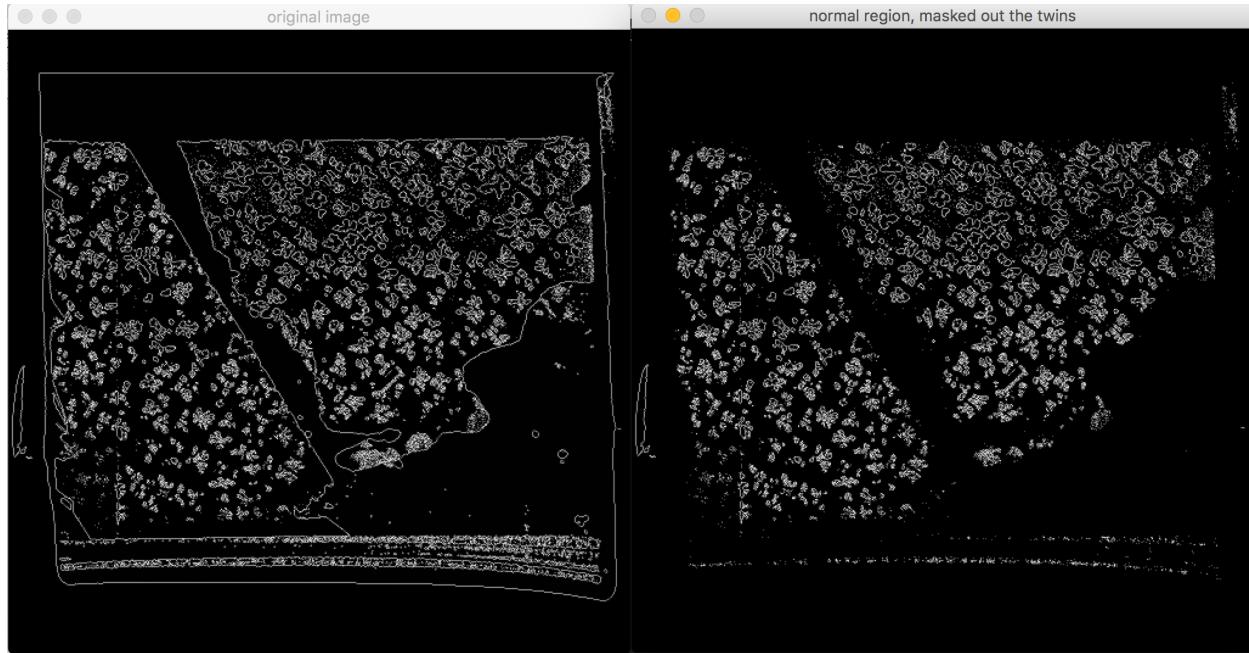
- steps:

- apply binary threshold on entire image;
- Mask out Twin regions,

- Results;



Img 1. Testing masks that mask out twin & grain boundaries;

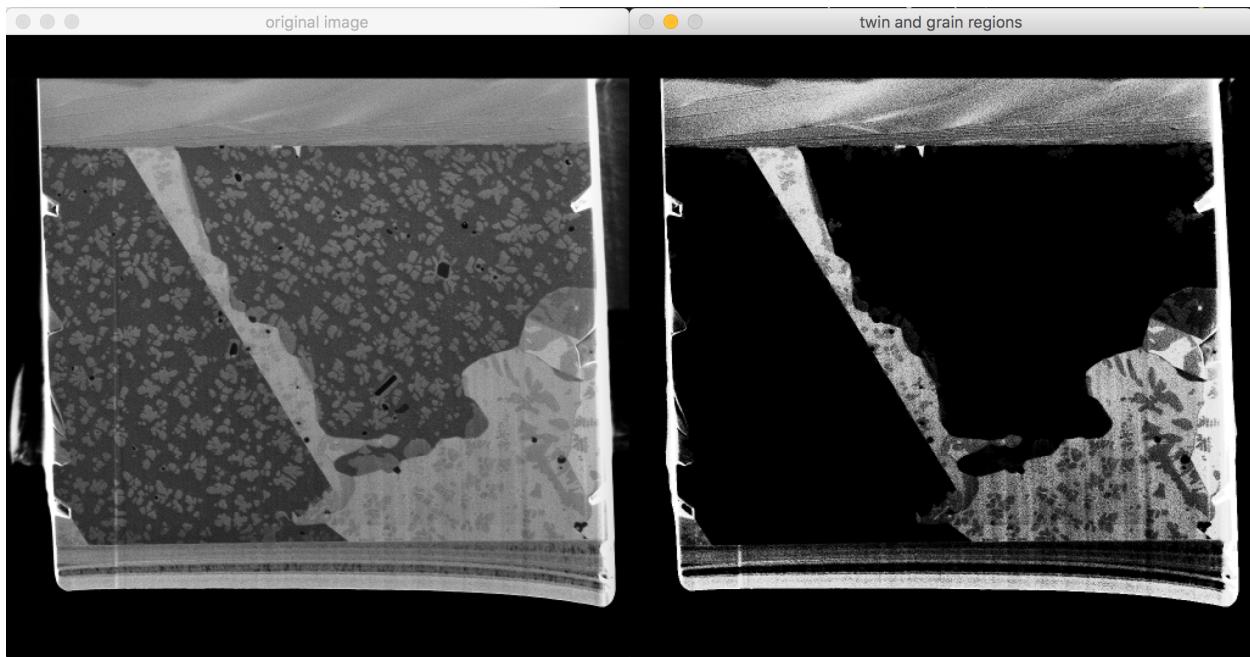


Img 2. Binary threshold on normal regions;

2. Apply histogram equalization on twin/grain boundary regions of the image;

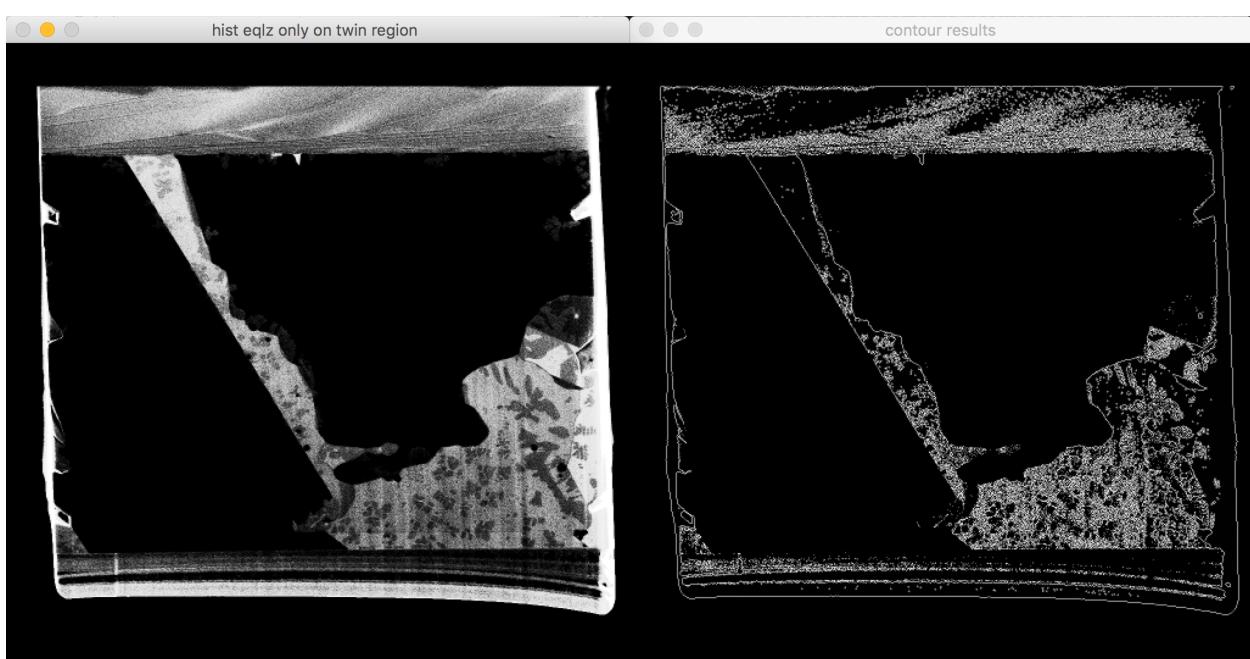
- steps:

- Use mask to only select the twin and grain boundaries region
- Apply histogram Equalization on that region;
- then find contours perhaps?



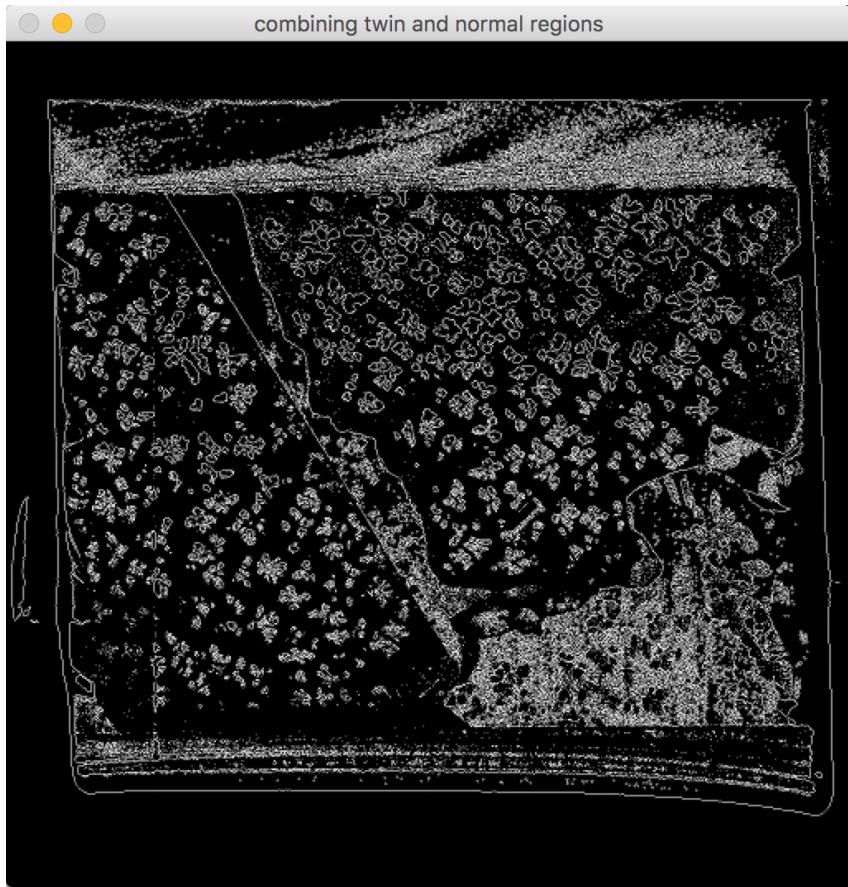
\Img 3. Testing masks that only selects the twin & grain boundaries region;

- Results:

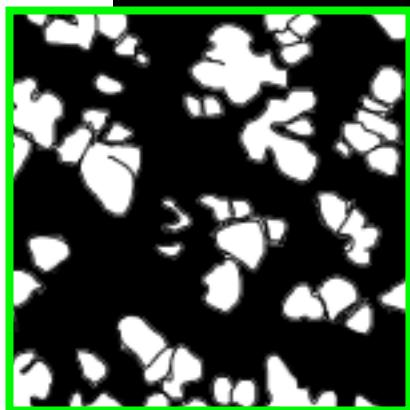
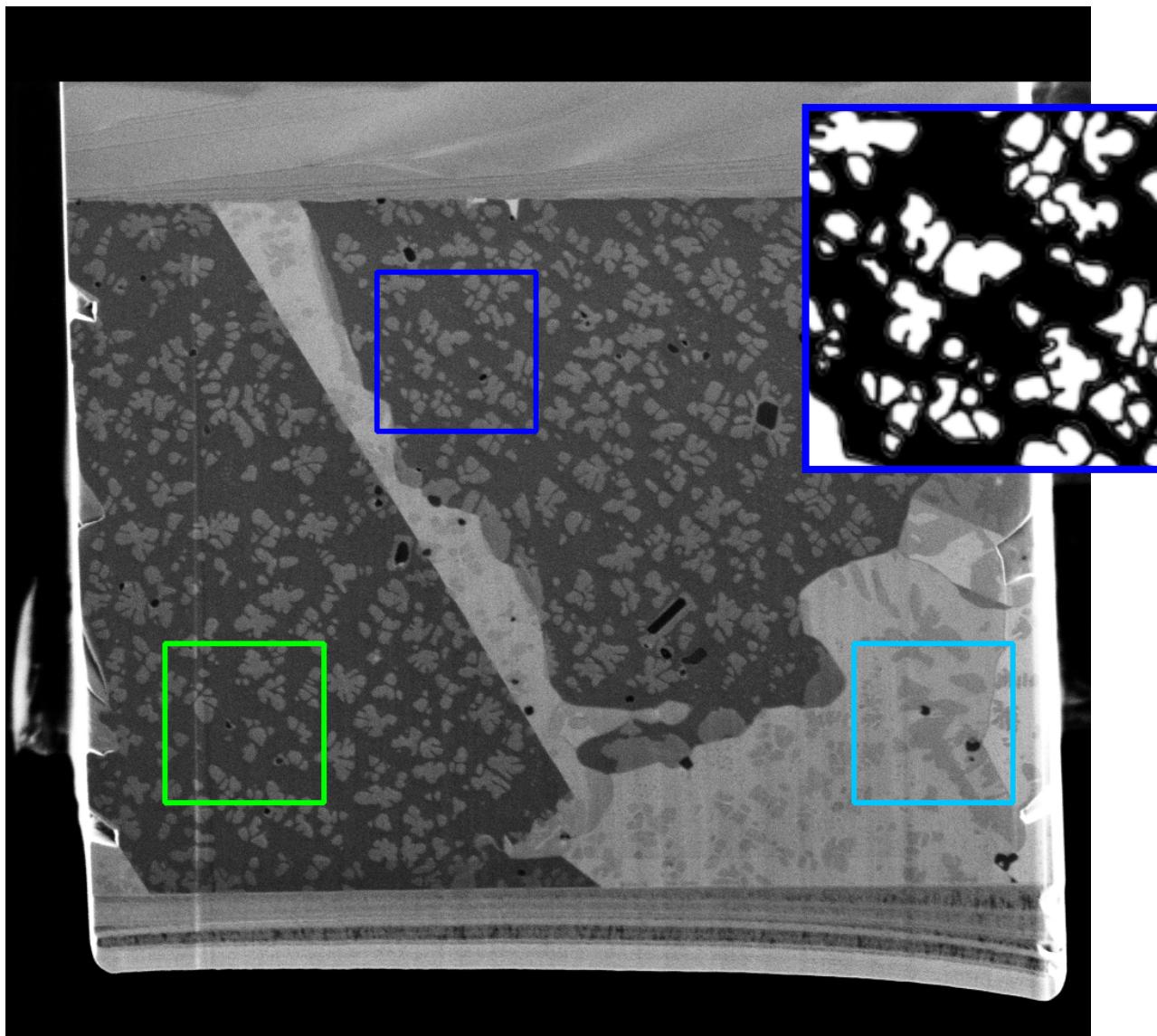


Img 4. Twin region segmentation, after histogram equalization ; didnt' work quite well .

3. Combine results from step 2 and 3 to rebuild the image;



Part 2: A checker function
function that compares the segmented image by computer, to a hand-traced binary image used as ground truth.



After obtaining results through part 1 procedures, checker function returns a difference of 58.44 percent.

Possible reasons:

- Twin / grain regions extremely noisy;
- ground truth is a binary image, with grains colored in white, and background in black.
My code currently does not remove background noises, and grains found are only highlighted using contours, not colored within.

