This week

- Code Comparing Graph for Yifu’s and Luxi’s code
- Get peak’s number from the graph
- Get peak’s position (In Progress)

Ylfu’s Code

Crop Image
(Rulers and Whisker Image)

Get Whisker’s Tip and Base position
(click tip base position on graph)

Build Mask
- [left_bound,right_bound]
- r<right_bound; g> left_bound; b<right_bound

Build the centerlines

Smooth Centerlines

Rotate Centerline

calculate the centerline from

Luxi’s Code

Crop Image
(Rulers and Whisker Image)

Get Whisker’s Tip and Base position
(click tip base position on graph)

Build Mask
- [left_bound,right_bound] - adjusted values
- r<right_bound; g> left_bound; b<right_bound

Build Mask - Area Filter

Build the centerlines

Smooth Centerlines

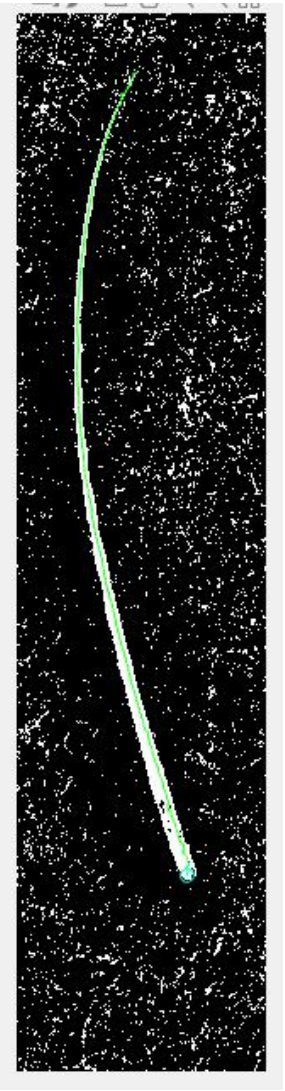
Find the pixel numbers

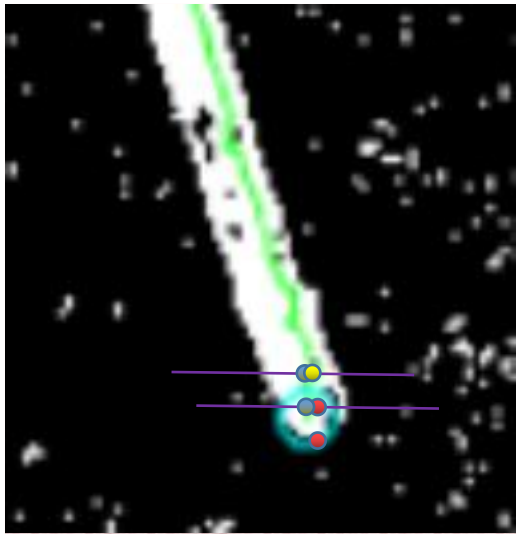
Rotate Centerline

calculate the centerline from

Centerline

Initial



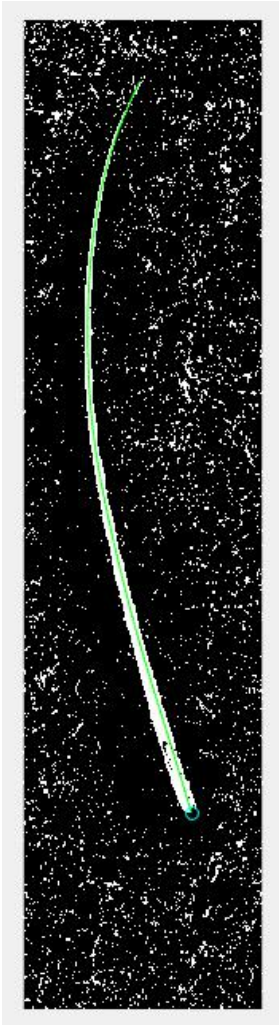


$$w_i = a_i e^{\frac{-|i-R|}{100}}$$

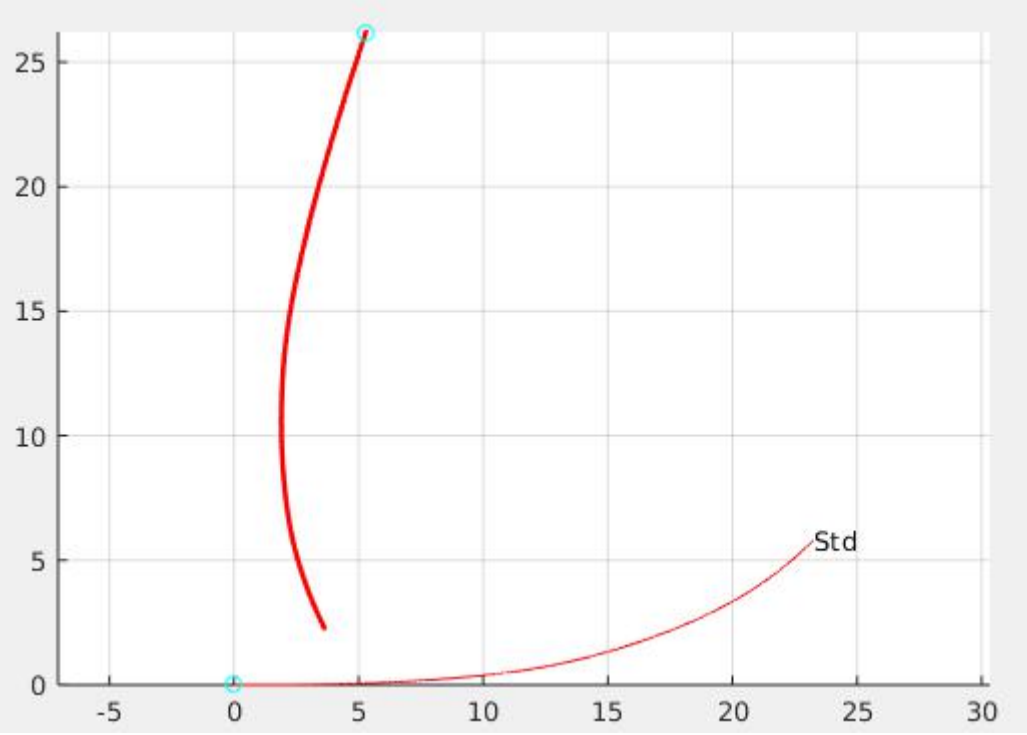
w_i : weight
a_i: pixel value on postion
R: radius on x direction

$$\frac{\sum i w_i}{w_i}$$

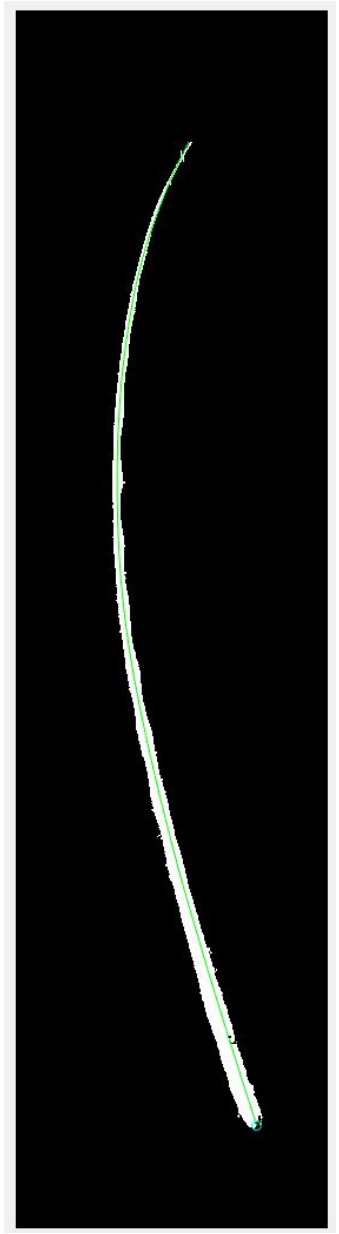
Centerline after smooth

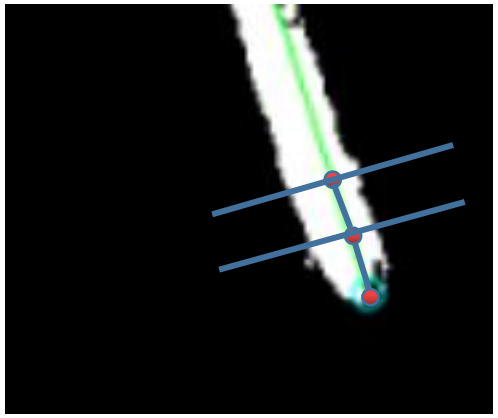


Wisker Length = $\sqrt{\sum (y_{i+1} - y_i)^2}$

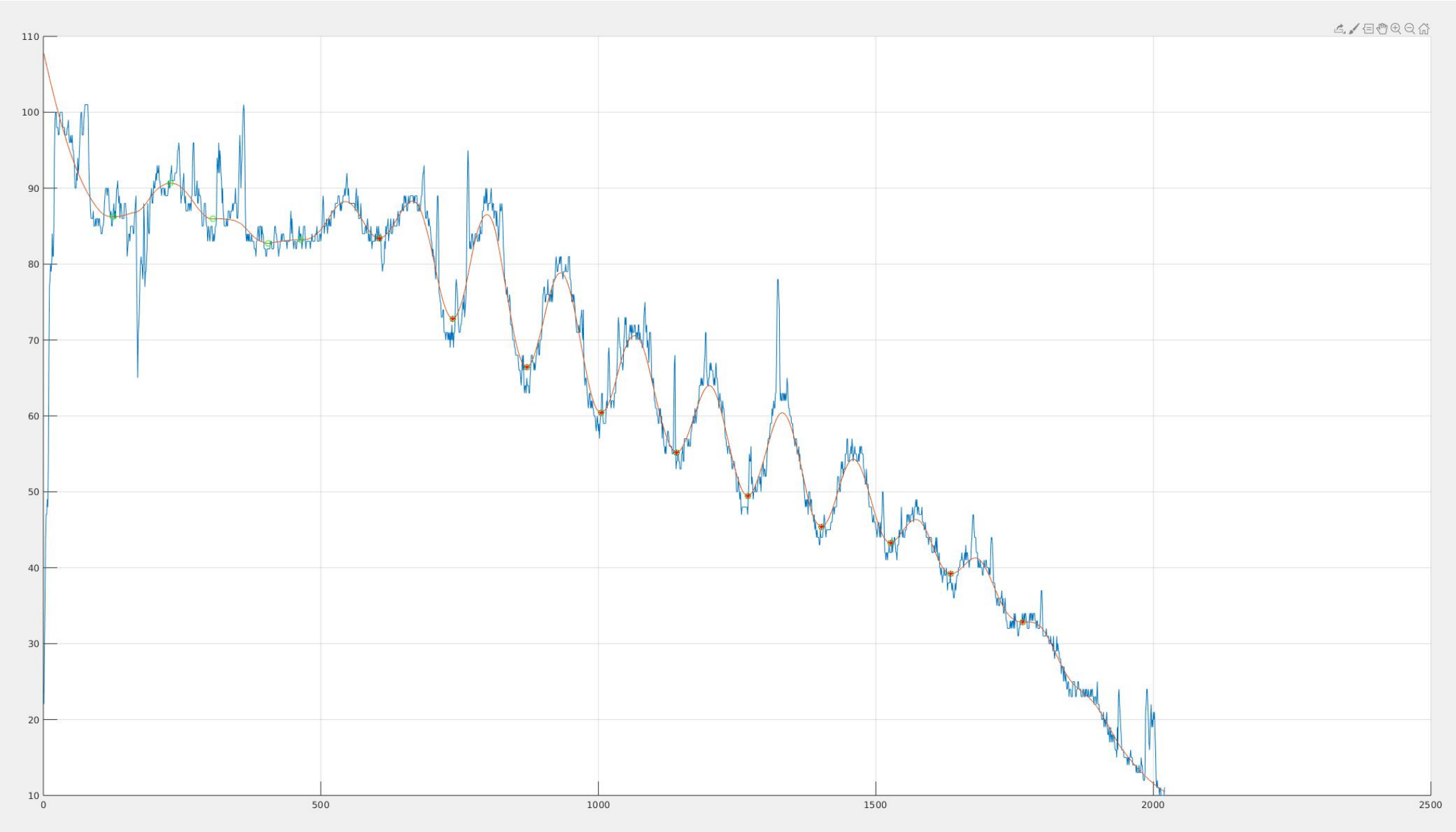


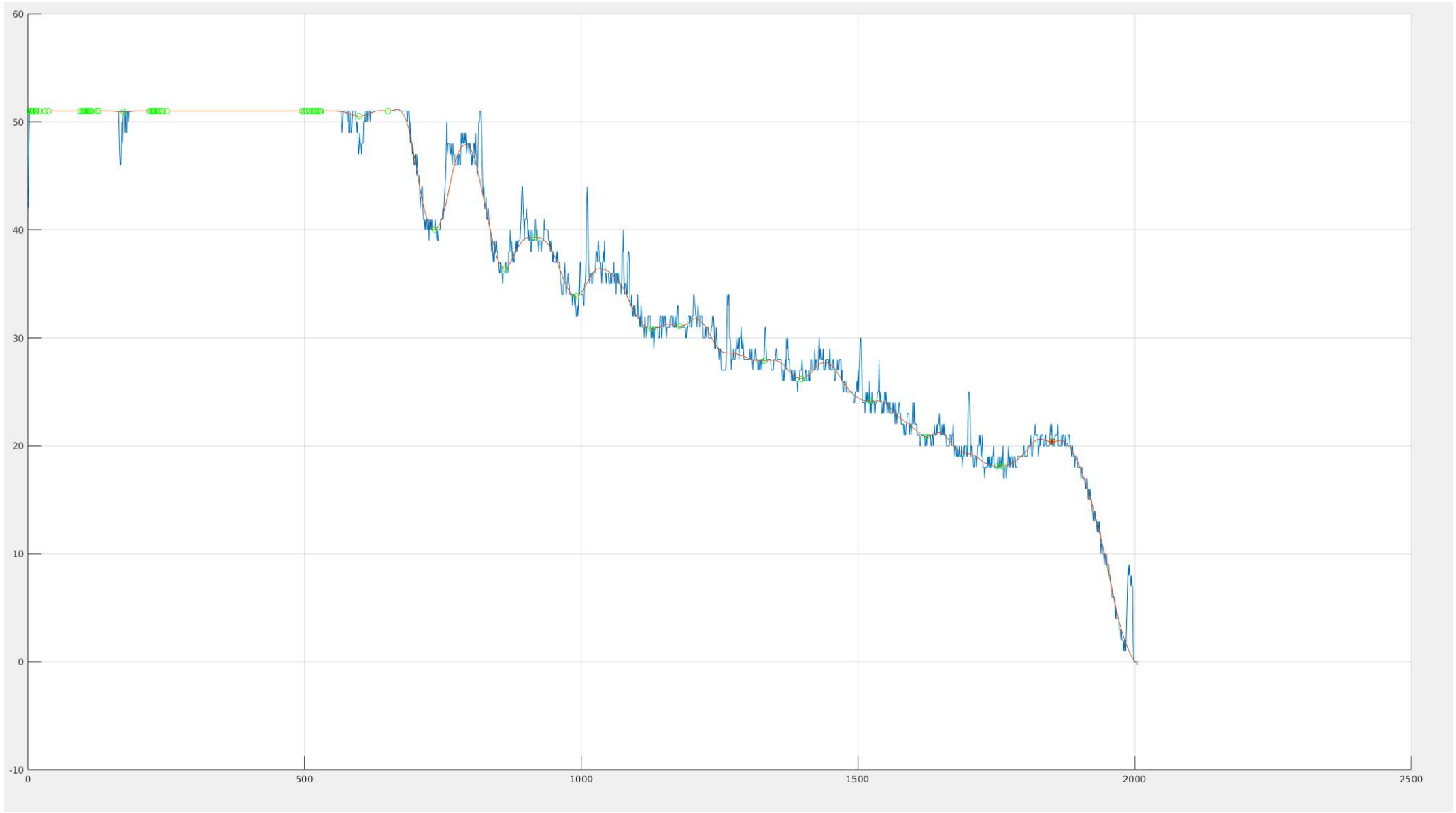
Calculate peak number





- Find perpendicular lines
- calculate white color pixel numbers along the line


110
100
90
80
70
60
50
40
30
20
10
0
500
1000
1500
2000
2500


60
50
40
30
20
10
0
-10
0
500
1000
1500
2000
2500

Next week

- Continue on Peak position
- Test on more 2-D graphs
- start alpha and beta.

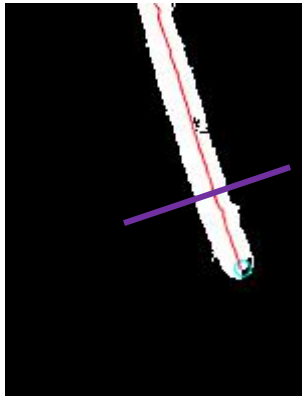
June 15th

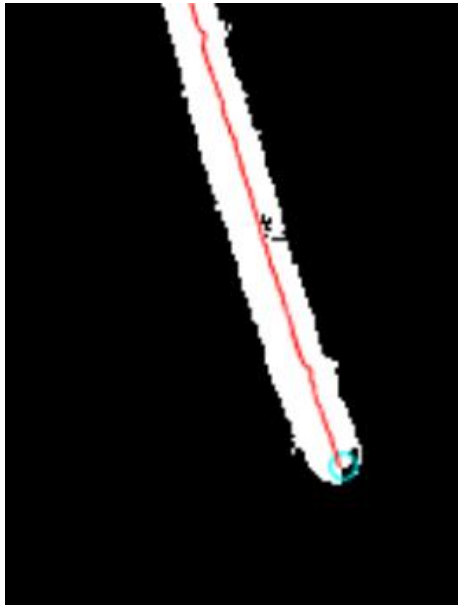
This week:

1. Modified algotirhm to draw new centerline
2. Find the peak positions
3. Tested code on different whiskers

New Center Line

Green Line: Original Centerline
Red line: New Centerline
Blue line: Perpendicular to the original Centerline
Purple line: Perpendicular to the red Centerline

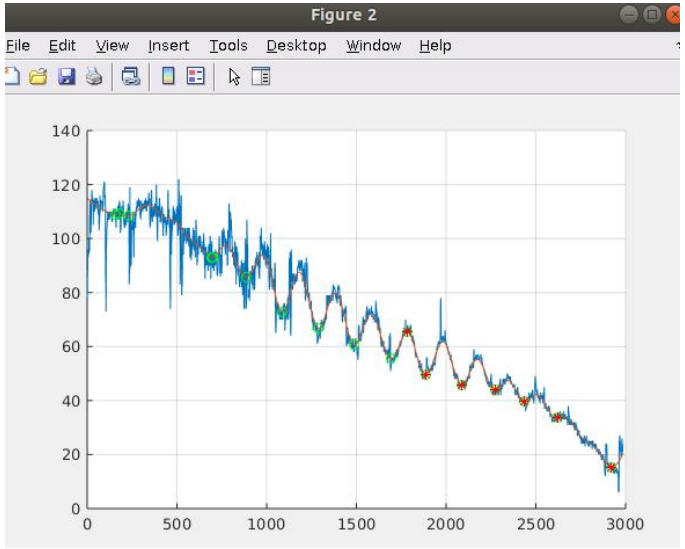




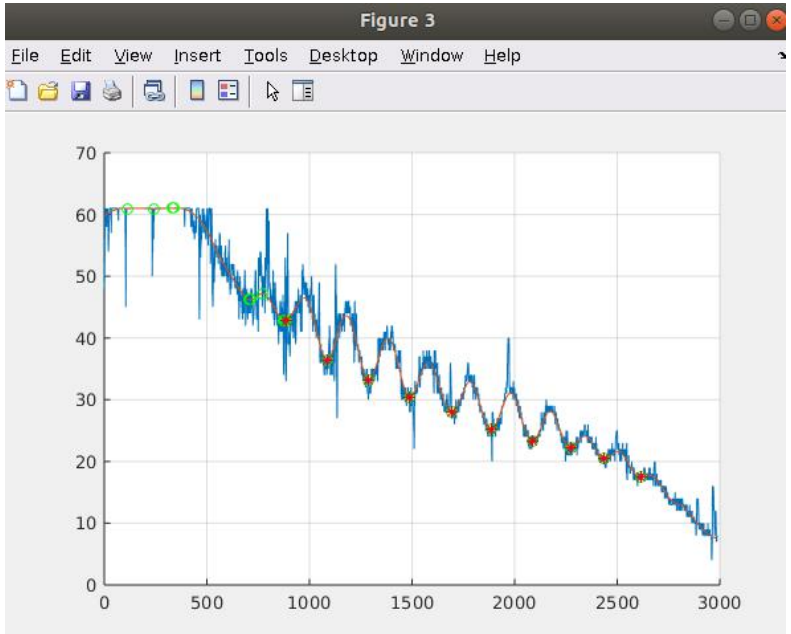
Horizontal: from bottom to top of the whisker position

vertial line: white color area

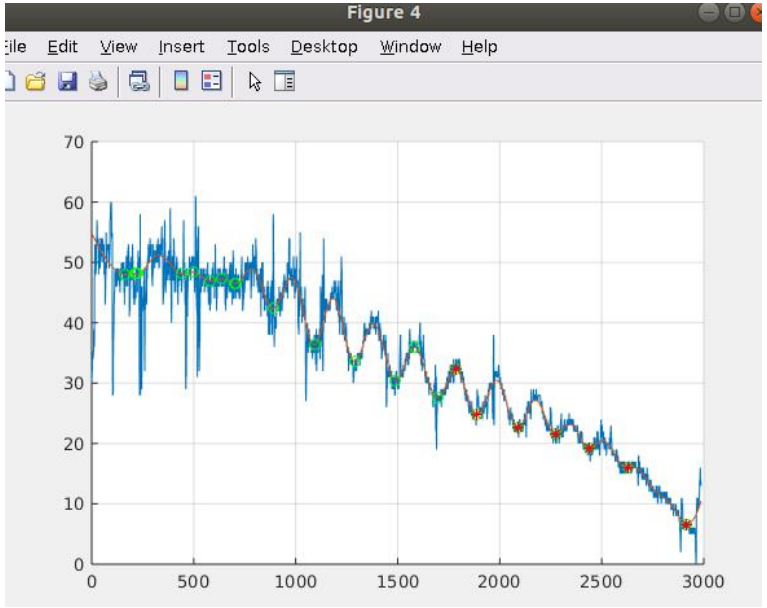
Whole area along perpendicular line

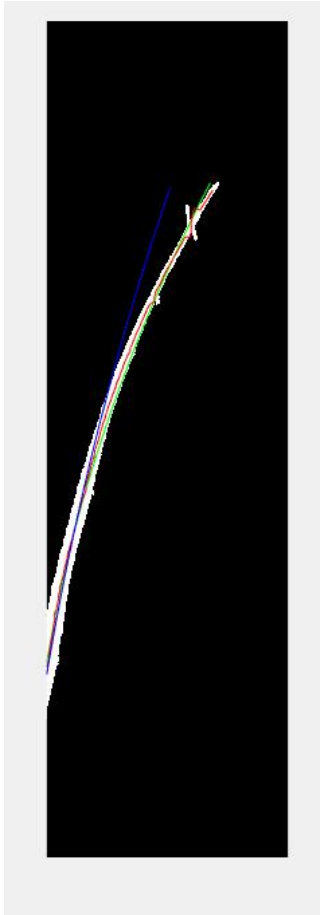


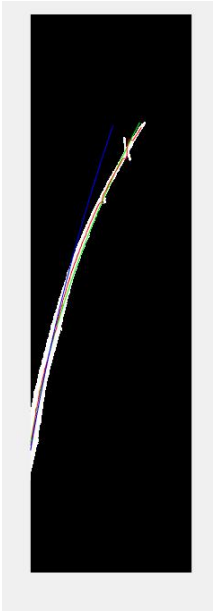
Upper area along perpendicular line



Lower area along perpendicular line



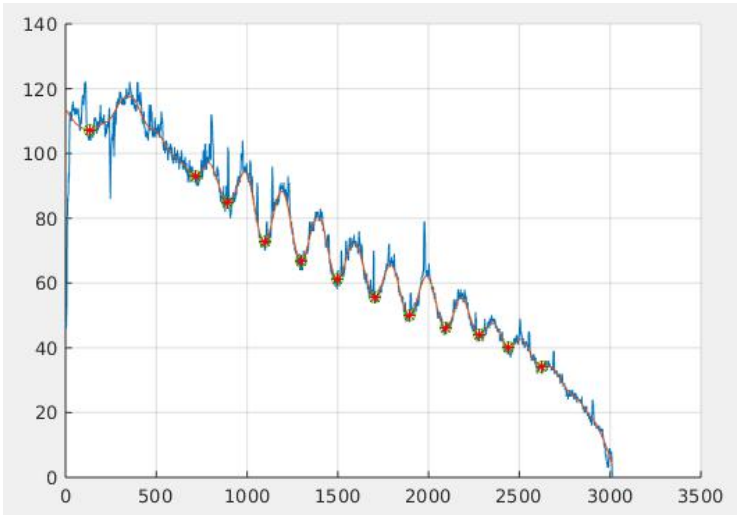




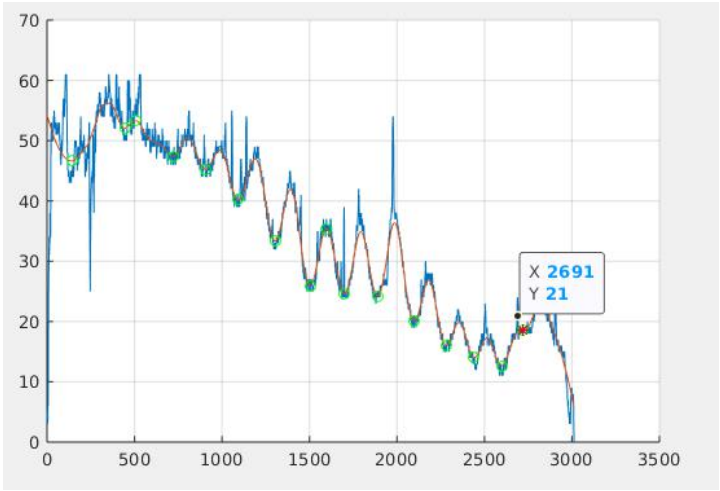
Horizontal: from bottom to top of the whisker position

vertial line: white color area

Whole area along perpendicular line



Upper area along perpendicular line



Upper area along perpendicular line