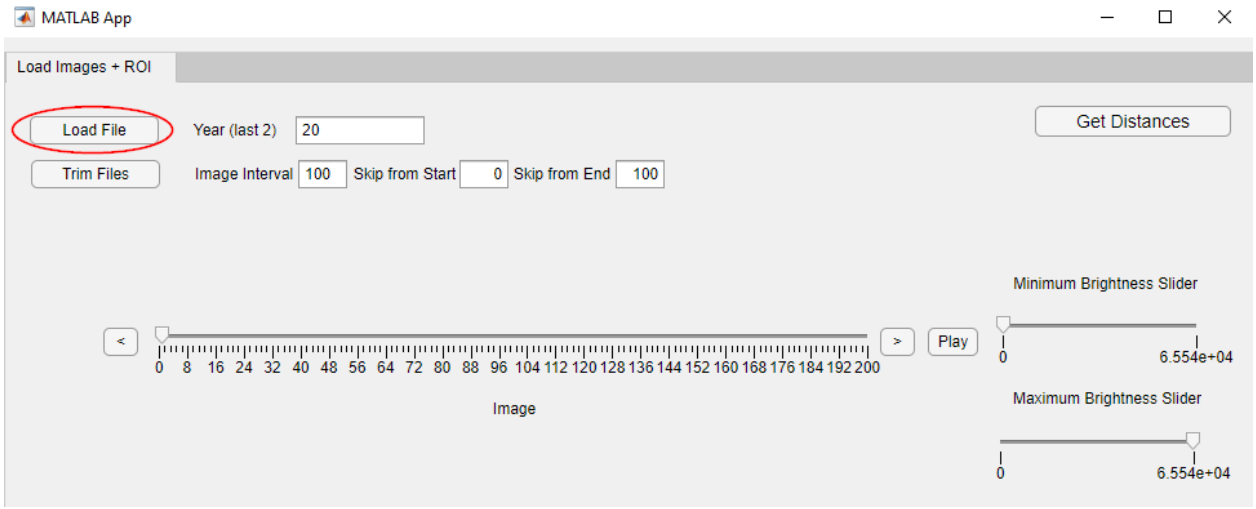
Tether Analysis Project

The Tether Analysis Project is an app developed in MATLAB that aims to analyze the behavior of tethers.

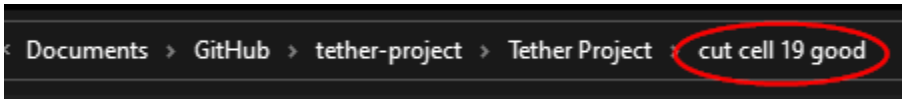
Usage

Make sure you have the Image processing Toolbox and Signal Processing Toolbox installed from the MATLAB packaging.

1. Click the Load File Button

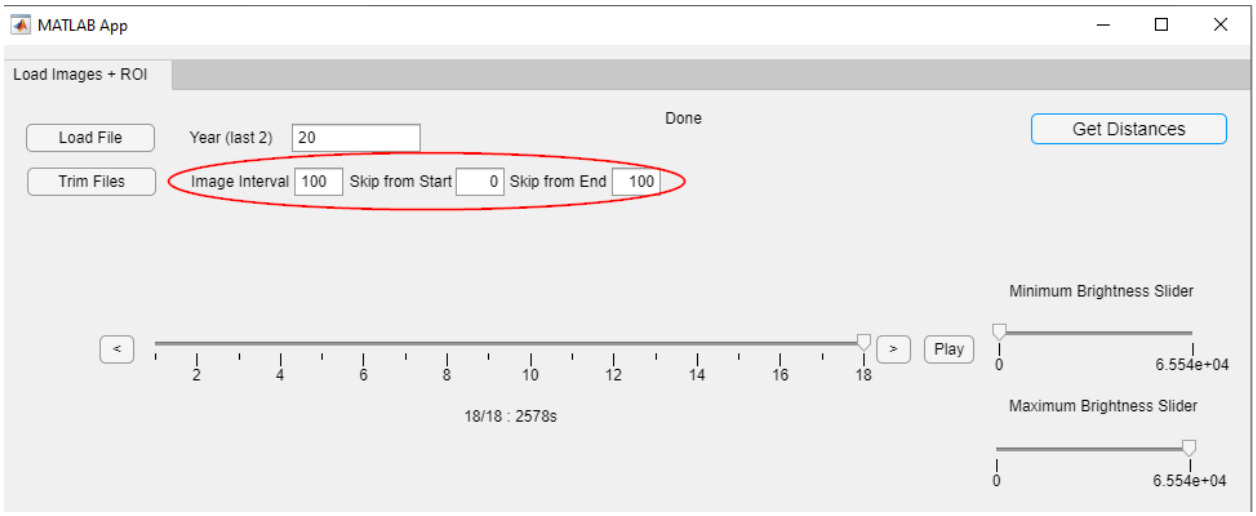


2. Select the folder with the tether data.

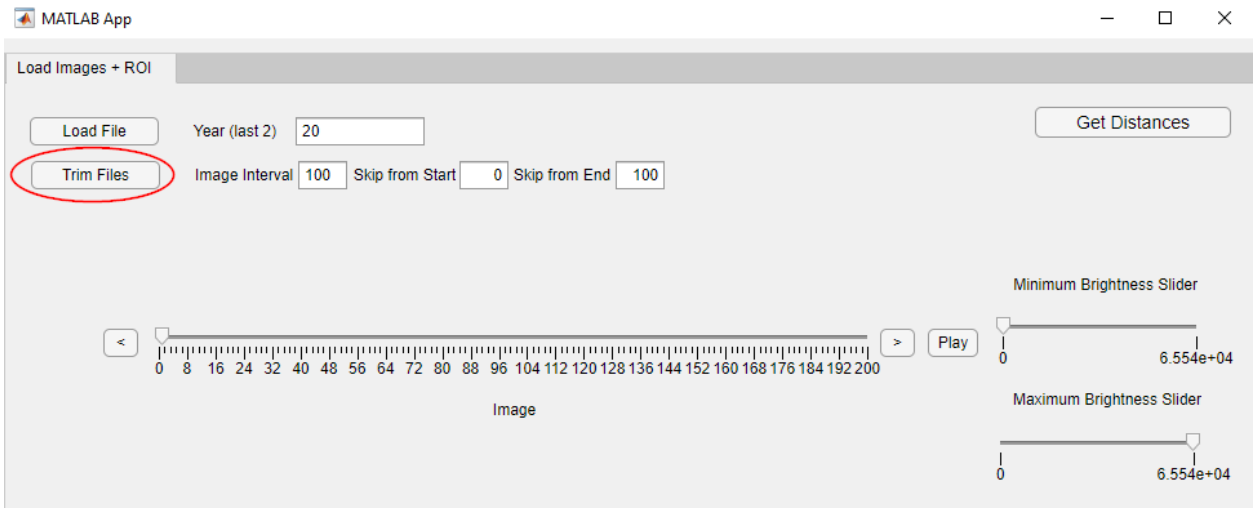


3. (Optional) Change the brightness as needed

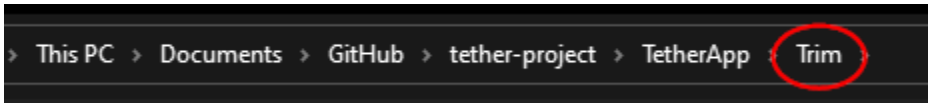
4. (Optional) Change the parameters as needed (Image Interval: the number of images between each image after the trim, Skip from Start: the number of images that the trim should skip from the front, Skip from End: the number of images that the trim should skip from the back)



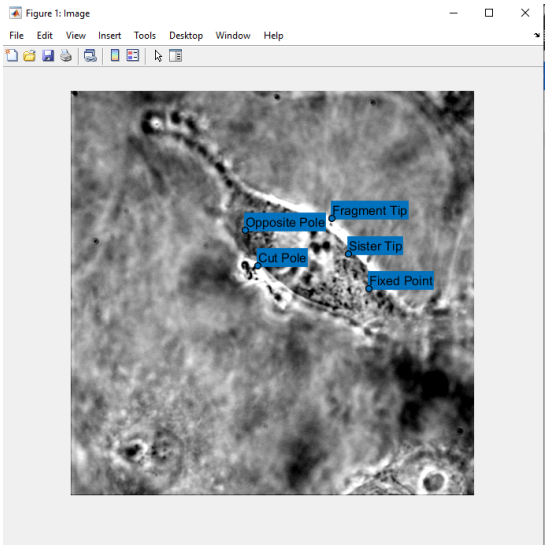
5. (Optional) Click the Trim Files button.



6. (Optional) Select the folder to put the trimmed images in.



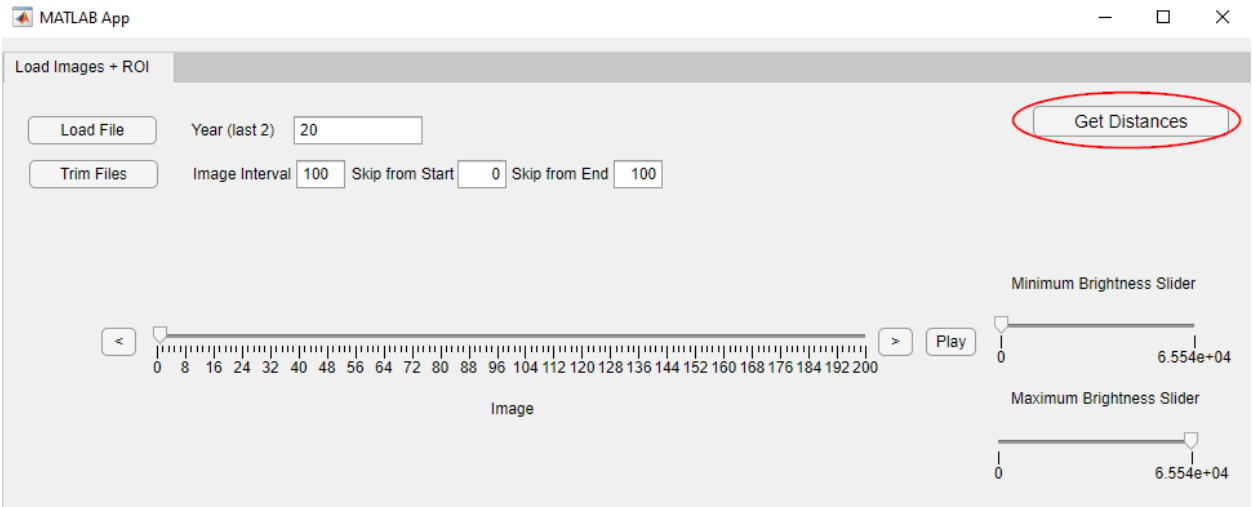
7. Press the press "1" on the keyboard to bring up the Cut Pole Point Selection UI ("2" for Opposite Pole Selection, “3” for Fragment Tip Selection, “4” for Sister Tip Selection, “5” for Fixed Points Selection)



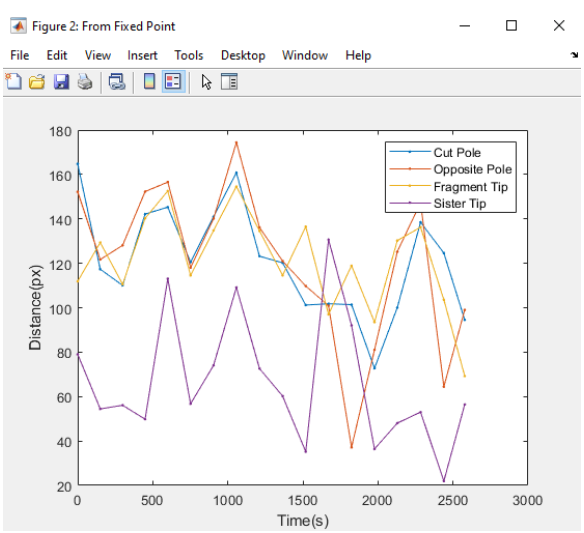
7.5. Press the button again to reassign the point if needed

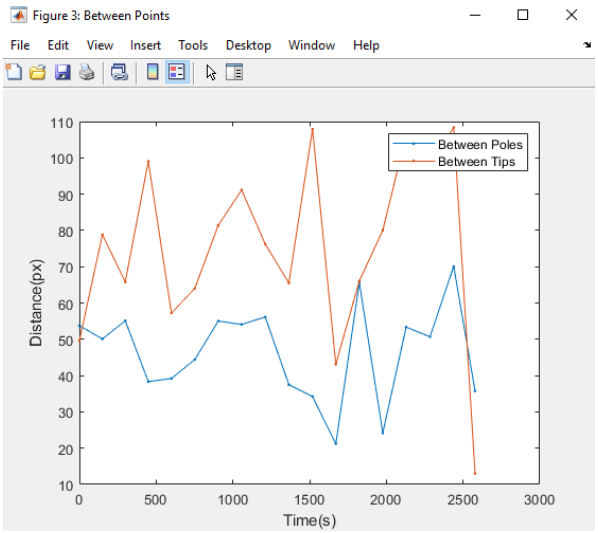
8. Click the “q” button to move forward and the “e” buttons move backwards and go through each of the images and repeat step 7.

9. Press the Get Distances button.



10. Check the accuracy of the graphs





11. Check the data folder where the trimmed files are to find the graphs and data csv for future use (remember to move out of folder to avoid overwriting for future program runs)