

Why We Do What We Do (WWDWWD)

Jeren Suzuki

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Introduction

This document is an attempt to organize the decision behind our methods in the grand scheme plan of extracting useful data from our image. I will try to organize it in parts so that it will be easier to follow.

1 Data Acquisition

Something about the camera

2 Handling 2D Image

Something about how we work around 2D image

3 Skimming the Top Off

We want to eliminate any outlier pixels that are way too bright so we sort our 2D image as a 1D array and mask out the top 1% of the pixels for our threshold. Actually, I'm just lying now. We don't need to do this anymore.

4 Deciding Whether or Not to Use Image

Include all the checks we do

5 Finding Centers of Sun(s)

Process of center finding

5.1 Thresholds

We want a robust threshold so instead of using an arbitrary parameter multiplied by the max of the image, we sort the 2D image into a 1D array and return the position of the boundaries of the regions which are seen as humps.

6 Finding Fiducial Positions

Process of fiducial finding

7 Miscellaneous

Extra