* Angle definition images need to be modified
  + Figure 14: Make '+' signs bigger
* ~~3.4 Home position needs to be expanded~~
* 3.6.1 Time derivative of a transformation matrix need to put the math here which shows that we need the instantaneous positions
* ~~4.2.2.1 – needs reference to shigley’s added~~
* 3.7 pointing a telescope
  + May want graphic of RA/Dec vs alt/az
* Chapter 4 reorganization
  + 4.1 state of previous system
  + 4.2 Implemented Design
  + 4.3 Design Guidelines
* 4.2 implemented design
  + ~~Lead screw (acme bs ball screw)~~
  + 4.2.3 ~~Bearings and coupler~~
* 4.3 design guidelines section needs lots of work
  + 4.3.1 Bearings
    - do simple fbd on each spot that needs bearings
      * just to show what forces it will see, not with numbers
    - 4.3.1.2 wants drawing of sample of motor/joint assembly which would not transmit axial/moment loads to motor
  + Geometry considerations
    - Singularity Points
    - Center of Mass
    - Minimum Leg Lengths
* ~~5.2.1.2 Need to generate plot of commanded angle vs cmd-actual (error at each commanded point)~~
  + ~~Commanded angle vs (command minus actual)~~
  + ~~Plot made in Altitude Relative Measure Calculations.xlsx but not yet added to doc~~
    - ~~Not sure on error bars for it?~~
* 5.2.2 need the results of the velocity testing
* 5.2.4 wobble section is empty
* All testing needs to have conclusions drawn
* Abstract
* 6.0 Conclusion needs to be written
  + here is what I did
  + here are the results
  + here is how it can be improved
    - Future investigations type thing
      * Lower joint assembly non-parallel to base plate to minimize likelihood of singularity
* Appendix A Need to generate doxygen manual
  + need to make sure code is in correct format
* Appendix B Need to be Matlab Code with instructions
* Appendix C Need to output drawings of any parts I made
  + Motor Adapter Plate
  + Motor adapter spacer
  + Updated shaft couplers
  + 8020 frame
* modify matlab program to accept various physical starting positions and desired angle
  + center of mass within reasonable boundaries
  + actuator not perpindicular to base plate (within a variable angle)
  + test each point with image rotation=0 and +/- variable angle
  + test leg lengths are valid
* Limitations of current/future system
  + Numeric for current system
  + Future:
    - Only reach a limited area of sky (alt az)
    - Maximum exists for length of tracking due to limit on image rotation
* Need to make tense and capitalization consistent throughout the paper
* “Not sure where's the best place to mention it, but there are many reasons why the mount will usually not be aligned with (0 , 0 , 0 ), including the difficulty of putting a portable mount at a precise angle and the fact that for most astronomical uses, the Meridian toward the South is prime observing territory, so that 0 = 180 for what is most likely the closest to an ideal configuration.” - ridgely

Requires computer lab

Non-writing