Problem Wk.8.4.4: Light Seeker Design

Read the handout for Homework 3 before doing this tutor problem.

Circuit diagram

Upload a PDF file containing your detailed, legible, and complete circuit diagram for your light seeker controller design. This circuit diagram should include your light sensor, as well as any other components (eg the motor) necessary to make a functional system. Make sure that the design can be adjusted to handle the range of gains that we might need, given any measurement for k_s.

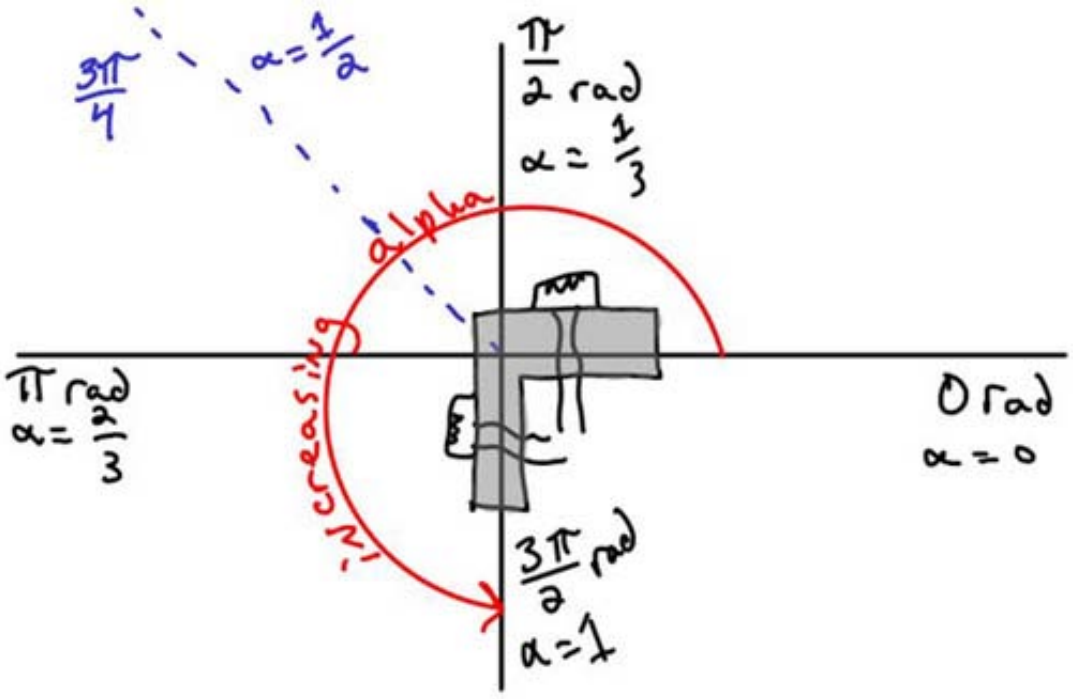
Please double-check that your file is a valid PDF before uploading. You will be able to check that the file is correctly uploaded.

CMax code

Paste the CMax circuit representation (contents of your *.cmax file) for your light seeker reference design **with gain (k_c) 2** in the following box. You can access the code by selecting `File → View Code...` from CMax's menu. The plots you see when `check`ing your circuit are the result of running the `eyeServo1.py` simulation file.

Note that your CMax code **will not be automatically graded**, so a green check does not necessarily imply a correct submission; it simply means we *received* your submission. Please carefully double-check your plots (which are reproduced when you click `check`) to make sure they are accurate.

If you are confused about what angles and alpha values to expect, you may find this diagram useful.

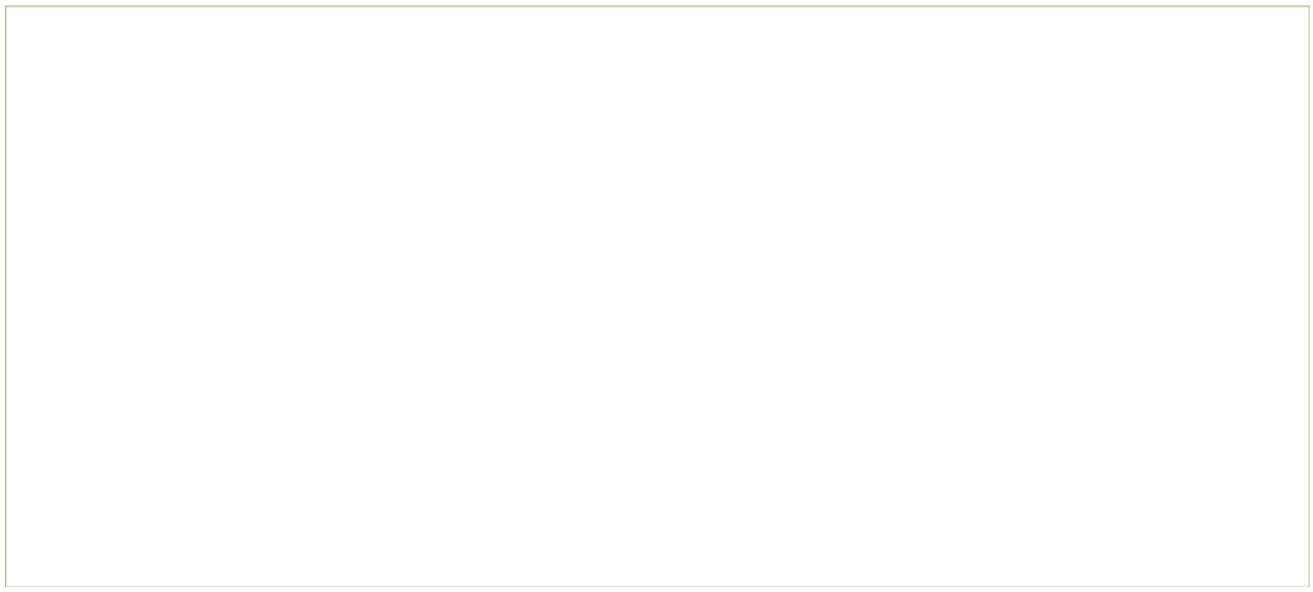


Discussion

Explain the key elements in your design. Does your design include a buffer on the signal from the eyes? Explain why you do or do not need it? How did you implement the gain k_c? Why did you choose that implementation?

What do the simulations tell you about the circuit's performance, in reference to the

design goals described in the HW3 handout?



6.01SC Introduction to Electrical Engineering and Computer Science

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