

Extra credit assignments based on the detectors write-up (1 point for each; will be added as extra credit to your HW score)

- 1) What kind of detector is in your webcam and in your cellphone? Is it a CCD or a CMOS detector? What's the primary advantage of using this detector in your webcam?
- 2) Take any remote control for any device. Shine it into your webcam or cellphone. What do you see? Explain.
- 3) Suppose we placed a CCD in the focal plane of a telescope and detected a photon. Which information about the photon is preserved? Which information is lost? What, if anything, can we add to this setup to not miss the missing information in the future?
- 4) What are the angular fields of view of ACS and LSST (is it ok for me to compare camera with a telescope? Why yes or no?). Why do you think there is such a big difference? (Name at least two factors.)
- 5) ACS images we looked at had 4 diffraction spikes. Why are there no diffraction spikes when using digital cameras?