CCD cosmetics, take 2

Due date: Mar 3, 2021

In the first semester we had actual images to reduce; now we will be using our own images (or perhaps one of your peer's images if you're feeling adventurous) and we will attempt to remove artifacts by using two codes: IRAF and ccdproc. This surely sounds confusing because IRAF's task is called ccdproc and astropy-affiliated package is called ccdproc, but this shouldn't really come as a surprise because ccdproc is modeled after ccdproc. :) Soooo.... let's jump right in!

1. Grab images from last week's assignment. That will be your input. Recap what was done to generate them. Convert them to a fits format. Make sure you have all keywords that you need.

2. Create bias, dark and flatfields that correspond to those images and save them in a fits format.

3. Fire up IRAF and redo the first semester's data reduction. Compare the image with instrumental artifacts removed to the image of original stars.

4. Now do the same using ccdproc in python. The link to it is on the course webpage.

5. Compare the two extractions in detail. Are they similar? Which one performs better and why?

6. *Extra credit:* Study the impact of added noise levels on the comparison between the two extraction methods. You *did* write all tiers as parametrized functions, right?