PHYC30170 Physics with Astronomy and Space Science Lab 1; Astronomical Image Analysis

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An article usually includes an abstract, a concise summary of the work covered at length in the main body of the article.

I. INTRODUCTION

This is the introduction.

IAC 80 Telescope at the Teide Observatory on Tenerife.

II. THEORY

This is the theory section.

A. Image Reduction

B. Bias Images

C. Flat Field Images

D. Aperture Photometry

$$m_{std} = -2.5 \log_{10}\left(\frac{F}{t}\right) + \mathrm{ZP} \tag{1}$$

where m_{std} is the calibrated magnitude of a source in the system, F is the measured background-subtracted counts from the image source, t is the exposure time and ZP is the zeropoint for the image.

Do some talking about what the zeropoint actually is.

Rearranging equation 1 for ZP:

$$\mathrm{ZP} = m_{std} + 2.5 \log_{10}\left(\frac{F}{t}\right) \tag{2}$$

E. CCD

A CCD is used...

Signal to noise (which can be compared to the fits file data)...

$$\frac{S}{N} = \frac{F_\star}{\sqrt{F_\star + n_\star\left(1 + \frac{n_\star}{n_{\mathrm{sky}}}\right) \times (F_{\mathrm{sky}} + R^2)}} \tag{3}$$

III. METHODOLOGY

A. Data Reduction

B. Determining the Size of Messier 91

1. Angular Size

2. Adjusting for Inclination and Position Angle

C. NN Serpentis

IV. RESULTS

A. Messier 91

B. NN Serpentis

V. CONCLUSION

Appendix A: Python Code

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