

# Title

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Abstract will go here.

## I. INTRODUCTION

## II. DATA ACQUISITION AND SETUP

Observations were made on at the Zaffarano Hall observation deck in Ames, Iowa. The night was very clear and the ambient temperature was around 32 °C. Observations were made using a Meade 8" reflector telescope with an SBIG ST-402ME CCD camera with internal V, B, and I filters.

To setup the telescope we used the Meade's GPS functionality to automatically calibrate its position. This calibration involved using two point sources as guides and orienting the telescope centered on the point source. For these measurements, the calibration sources were Arc-turus and Altair. We used a 32 mm eyepiece for our calibration alignment. Using the Meade selector, we navigated to the  $\beta$  Cygni system. We then switched to a 9 mm eyepiece for fine-alignment on our target. Once we were well centered on our target we removed the eyepiece and inserted our CCD camera.

Using CCDops5 we selected the V filter and began focusing the CCD camera with a manual knob on the telescope. The exposure time for these focusing grabs was 0.05 s. We based our focus on maximizing the peak amplitude read out in CCDops. We took multiple images at multiple exposures with different filters, all recorded in section A. For each image grab, we set up an autograb using CCDops and

## III. DATA ANALYSIS

## IV. RESULTS

## V. CONCLUSIONS

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## Appendix A: Observation Log

TABLE I. Observed 30 August 2017 by Miles Lucas and John Brandon

| Time | File                  | N Frames | Object                 | Filter | Exposure | Camera Temp. | Notes       |
|------|-----------------------|----------|------------------------|--------|----------|--------------|-------------|
| 8:52 | Albireo_V_tenth_      | 10       | Albireo ( $\beta$ Cyg) | V      | 0.1 s    | 5 °C         |             |
| 8:56 | Albireo_V_tenth_dark_ | 5        | Albireo ( $\beta$ Cyg) | V      | 0.1 s    | 5 °C         | Dark frames |
| 8:59 | Albireo_V_half_       | 3        | Albireo ( $\beta$ Cyg) | V      | 0.5 s    | 5 °C         |             |
| 9:01 | Albireo_V_half_dark   | 5        | Albireo ( $\beta$ Cyg) | V      | 0.5 s    | 5 °C         | Dark frames |
| 9:03 | Albireo_V_full_       | 3        | Albireo ( $\beta$ Cyg) | V      | 1.0 s    | 5 °C         |             |
| 9:04 | Albireo_V_full_dark_  | 5        | Albireo ( $\beta$ Cyg) | V      | 1.0 s    | 5 °C         | Dark frames |
| 9:05 | Albireo_B_tenth_      | 5        | Albireo ( $\beta$ Cyg) | B      | 0.1 s    | 5 °C         |             |
| 9:06 | Albireo_I_tenth_      | 5        | Albireo ( $\beta$ Cyg) | I      | 0.1 s    | 5 °C         |             |

## Appendix B: Analysis Scripts