

## What's Wrong with My Image???

### Top 10 problems you might have with an image

#### 1. I can't see my star (or galaxy), all I see are a few white dots

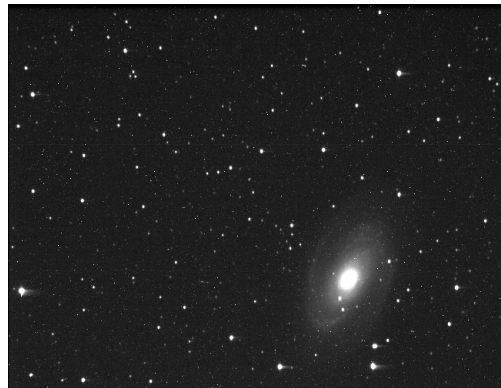


##### **Source of Error:**

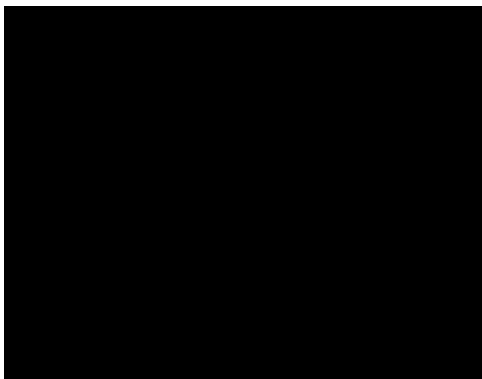
Technical - Your target is here (in this case a galaxy). The contrast between the brightest and dimmest features is low.

**Solution:** You need to “auto adjust” your image in the image processing software to see faint images. Using MicroObservatory Image, click the adjust image button under the “process” tab. An adjust image box will appear – click on the “auto” button.

Your image should now look like this:



#### 2. My image is completely black, when I try to “auto adjust” it turns completely white



##### **Source of Error:**

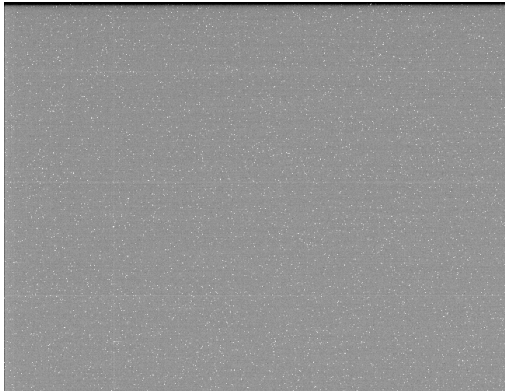
Human – the image may be overexposed, due to too much light entering the detector, or you may have taken the image when it was light out (during the day, twilight or dawn)

Natural – it could have been very cloudy, raining or even snowing

Technical – the mechanical shutter may not have completely closed.

**Solution:** Retake the image. Be sure to check weather conditions, time of night and be sure you have the correct exposure time.

### 3. My image is speckled black, when I try to “auto adjust” all I see are white dots



**Source of Error:**

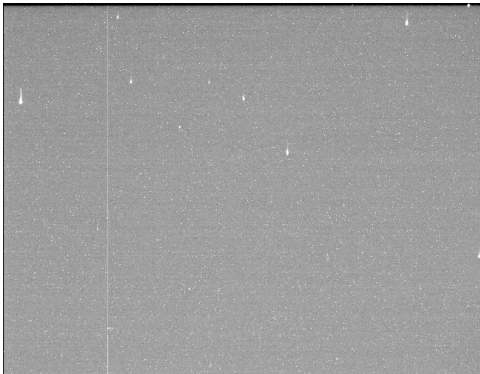
Natural – probably cloudy skies. The telescope recorded thick clouds not stars

Human – you may have chosen a filter that limits the proper exposure

Technical – white dots are part of “electronic noise”, which is found in all images but not usually seen when bright stars are present

**Solution:** Retake the image on another night. Be sure to check exposure settings

### 4. My image is black. When I try to “auto adjust” there are little dashes and bright streaks on my image

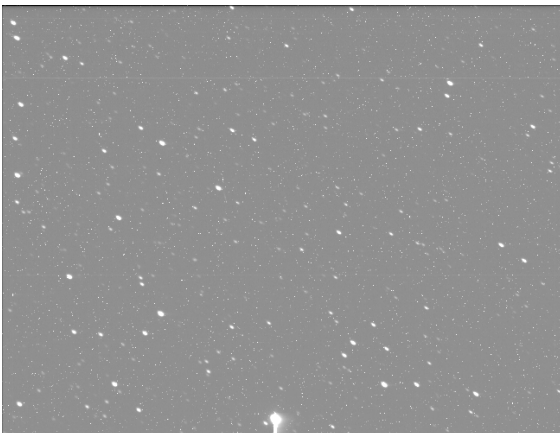


**Source of Error:**

Technical/Natural: the telescope shutter is not closing completely – may be due to cold temperatures

**Solution:** retake image

### 5. My stars are not round

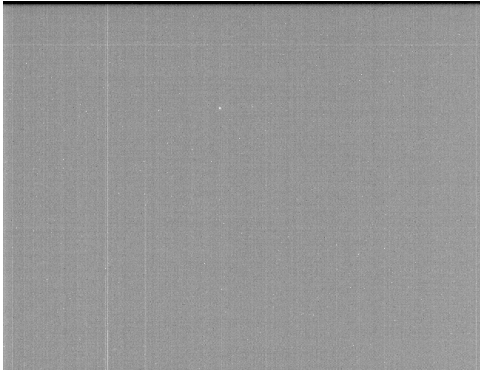


**Source of Error:**

Technical – the telescope moved during exposure making the stars streak.

Solution: Retake image if the target can't fit in the measurement circle otherwise, this should not affect your analysis.

**6a. My image is completely gray. When I try to “auto adjust” it’s still grey with only one star shining through and it’s not my star!**



**Source of Error:**

Natural – those infernal clouds – the bane of every astronomer.

**Solution:** retake image. Be sure to check the weather

**6b. The right side of my image is gray when I auto adjust but I can still see my target star.**

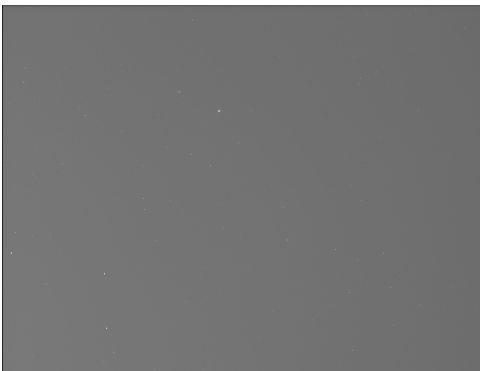


**Source of Error:**

Nature - Clouds again – but only partially cloudy this night.

**Solution:** since you can still find your target, use this image

**6c. The night sky doesn’t appear dark.**

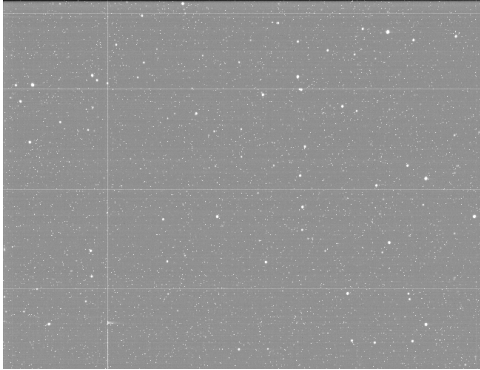


**Source of Error:**

Natural – there might be thick clouds, the sky is bright even at night (maybe the moon is nearby) or light pollution.

**Solution:** once adjusted, you might be able to locate your target star. If not retake image

**7. There is a white grid on my image, and the line goes right through a star I'm trying to analyze.**



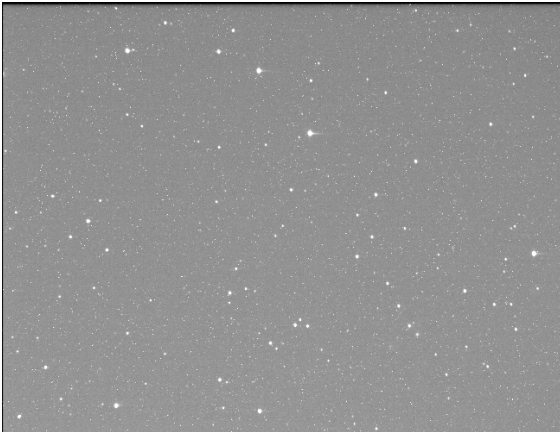
**Source of Error:**

Technical – either the detector or the circuitry is malfunctioning

**Solution:**

Retake image if line go through your star. The lines will not affect your analysis as long as you can take a measurement.

**8. I've "auto adjusted" my image but still can't find my star.**

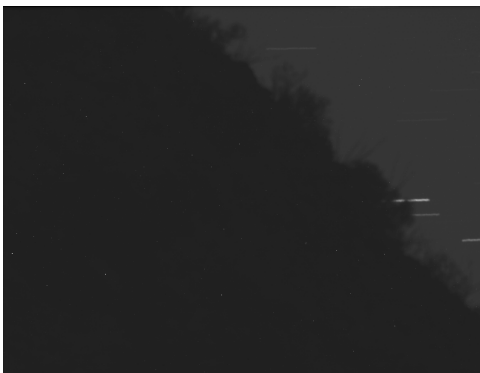


**Source of Error:**

Human - if the image looks good, you might just need some practice star finding. The stars in this image may not be in the exact location as they appear on a star chart.

**Solution:** Try the pattern matching game to hone your star finding ability.

**9. There is a dark outline on the image with short horizontal lines.**



**Source of Error:**

Human – When the telescope takes images of vegetation (usually during the day), the telescope does not track the stars because plants don't move. This image was taken at night, recording the motion of the stars across the sky.

**Solution:**

Retake the vegetation image during the day.

## 10. I see faint donuts on my image



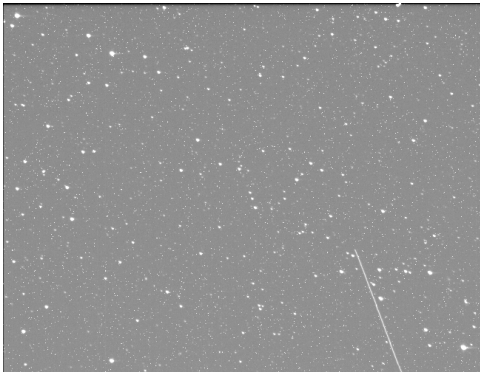
### Source of Error:

Technical – These are actually out of focus dust spots near the detector of the telescope.

### Solution:

No need to retake image unless they don't allow you to measure your target stars.

## Bonus: When I “adjust” my image I see a diagonal line



### Source of Error:

Natural – Congratulations, you've found a satellite passing through your field of view during exposure. Sometimes satellites, meteors, asteroids, planes and even birds pass through a field of view during an exposure.

**Solution:** Retake image if line go through your star. The lines will not affect your analysis as long

as you can take a measurement.