

Names:

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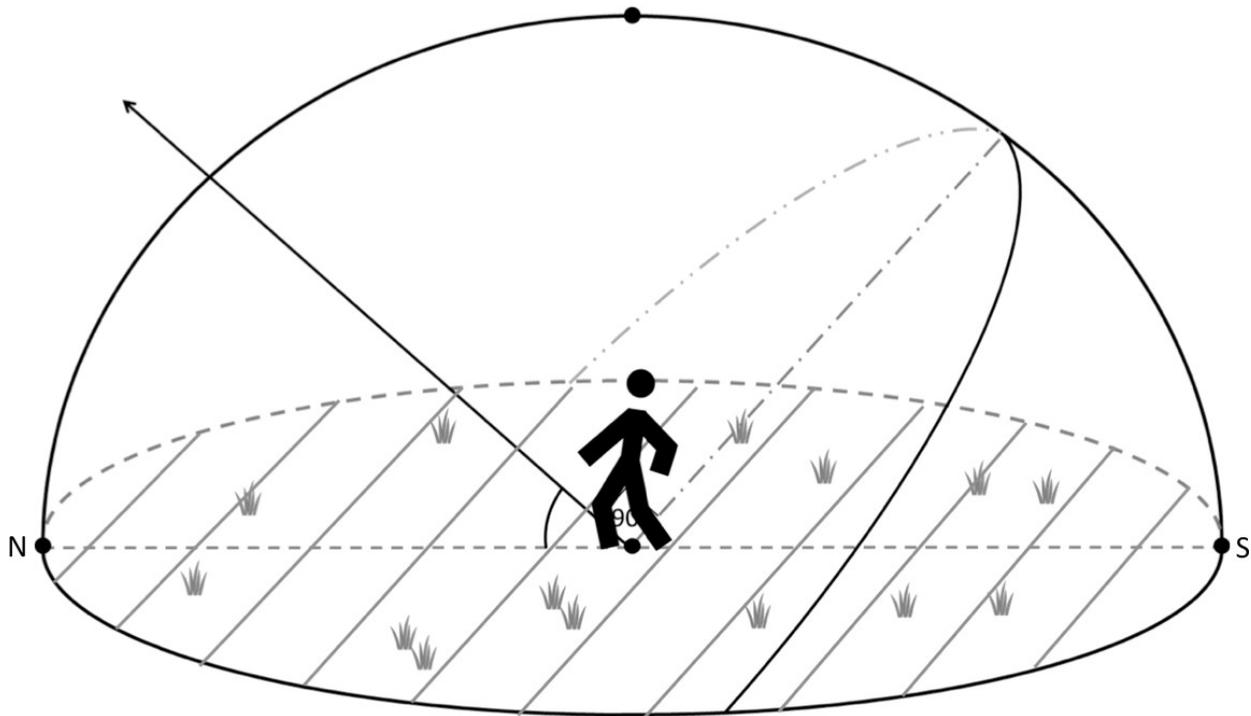
Grade	
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## Observing with the VAO

# Pre-Lab Quiz

Record your team's answers as well as your reasonings and explanations.

1-4.





## Part 2: Selecting a VAO Filter

1. For each filter on the VAO given on the lab webpage, report its wavelength coverage (the starting and ending wavelengths). Is this filter a broadband or narrowband filter? Also approximate the central wavelength of the filter. What color of light does this filter correspond to in the electromagnetic spectrum?

Filter Name	Wavelength Range (nm)	Filter Type	Central Wavelength (nm)	Color
R				
G				
B				
H-alpha				

2. Why does the VAO have filters?

3. Choose a filter(s) to observe your final observation target in and list it below.

## Part 3: CCDs and Selecting an Exposure Time

1. What is the pixel size of the CCD camera on the VAO? Compare this value to the widths of human hairs, whose diameters fall in the range of 20-200 microns ( $\mu\text{m}$ ).

2. For an observatory, what does field of view (FOV) mean? What is the field of view of the Van Allen Observatory?

3. Select an exposure time for your final observation target and fill out the table below.

Final Observation Target	RA	Dec	Filter Choice(s)	Exposure Time Selection(s)

## Part 4: Telescope Live

Request 3 images of the Andromeda Galaxy with Telescope Live; an R image, a G image and a B image:

- Go to the website [telescope.live](http://telescope.live) and click SIGN IN at the top, logging in with the email and password provided
- At the left click Advanced Requests, then New Requests
- Under Target Name, type 'Andromeda Galaxy' and then click SEARCH COORDINATES and then click NEXT STEP ->
- Select the telescope with the shortest COMPLETED IN days, then click NEXT STEP ->
- Uncheck Luminance, decide on and select/enter an appropriate Exposure time for your images by consulting with your lab group, and then click NEXT STEP ->
- Click NEXT STEP -> again

1. List your chosen exposure length below. Remember to include units.