2.2 Describe the Sky

What part of the sky can you see from this area? If you have a lot of trees or buildings around, you may be limited in the areas on the sky you can observe! Specify the visible area of the sky in terms of altitude and azimuth ranges. For example, you might say, “I can see from 40 degrees up to 90 degrees in altitude if I look straight south, but I can only see from 80 to 90 degrees in altitude if I look north because the neighbor’s roof blocks the way.”

Using a sky-viewing app (google sky, etc), determine what is visible at the time you are doing the lab. Visible means: not obstructed by buildings or by trees. If there are a few leaves in the way, it might be OK, but if there’s a thick tree canopy above, it will not. Record the time and a list of celestial objects (constellations, interesting features in those constellations) that could be seen from the site.

Remember that radio observations can be performed during the day. However, you can’t see through the sun, and for our telescopes, you need to be pointed & 10 deg away from the sun to avoid contamination. You will also need to point at the sun for part of the assignment, so figure out when the sun is directly visible from your observing site.

A picture containing text, tree, outdoor, sky

Description automatically generated A couple of cars parked in front of a house with trees in the background

Description automatically generated with low confidence

North about 70 degrees to 90 degrees East 30 degrees to 90 degrees

A picture containing tree, sky, outdoor, grass

Description automatically generated A house with trees around it

Description automatically generated with medium confidence

West not much visibility, maybe 80 degrees to 90 South 30 degrees to 90 degrees

The view is fairly obstructed by trees and other houses. This spot is next to a somewhat frequently used street so we may experience some cars passing nearby the telescope while observations are being taken. The sun is directly visible from 10 am to 1 pm before disappearing behind tree cover from our vantage point.

2.2.1 RFI sources

Are there any other notable obstructions you might worry about? For example, is there a cell tower or a radio broadcasting center that might muck up your observations with radio frequency interference (RFI)? Are there overhanging powerlines? Remember that radio receivers can pick up signals from all around - if there are broadcasting devices (like car radios and cell phones), they can produce interference. Note what possible sources are nearby.

There are powerlines nearby, lining both sides of the street. There are other houses nearby that might have radio wave emitting devices inside. Additionally, my location is near a stadium which might have sources of significant interference. Since my location is near campus, any broadcasting towers campus might have may interfere with observations at my location.

2.2.2 Describe the sky at other times

Using your observation planning tools, determine what else is observable from the site. If you picked a really clear site, the answer might be ‘nearly everything’ - but it’s definitely not everything, so summarize concisely what is visible.

planetary nebula in Cygnus, NGC 6842, Deneb, Altair, Vega, NGC 1027 star cluster, M 15,

Constellations – Cygnus, Lyra, Sagitta, Aquila, Delphinus

Also answer these specific questions:

• At what times does the Galactic Plane pass overhead?

The galactic plane passes overhead around 7 am and 8:30 pm

• What part of the Galactic Plane (what Galactic Longitude) passes over at those times? about 66 dd 04 mm 15.46 ss.s longitude and 00 dd 27 mm 37.26 ss.s latutude