

STAR OBSERVATION IN THE 24 MAY, 2001

Name of the star	Constellation	Visible Brightness (guess)	Visible Brightness	Range of error	Comparing Light Intensities (Guessing Values)
Procyon	Canis Minor	<p style="text-align: center;">2.1^m Accordin to our comparison star Daphne with a visible brightness 2^m</p>	0.5 ^m	1.6 ^m	$m_1 - m_2 = 2.5 \log (I_2 / I_1)$
					Comparing Light Intensities
Regulus	Leo	<p style="text-align: center;">1.6^m Accordin to our comparison star Daphne with a visible brightness 2^m</p>	1.3 ^m	0.3 ^m	$m_1 - m_2 = 2.5 \log (I_2 / I_1)$

CONCLUSION

1) What is the reason of the errors in visible brightness?

First of all for the star Procyon it was very close to horizon. Especially nights in towns are the perfect examples of light pollution also by the help of light pollution we can observe the air pollution as well. When we look close to horizon, it is never clear in town night. The sky's color is more like redish powder when we look close to horizon. That's why when we observed Procyon by naked eyes, we were affected by these pollutions and couldn't make the write guess for the visible brightnesses. for the star Regulus we mostly affected by the full moon, because Regulus was close to it and the sky is more shiny in that region.

2) Is there any difference between the ratio of light intensities?

Yes, there is a difference between the light intensities. One of them was calculated by my guessing visible brightnesses and the other was calculated by the true values and as a result there is a difference between them.

3) What is the reason of this difference?

We know that to find a distance of a far object in astronomy is like our main problem. Also we know that the interstellar space is not empty. The light that comes in to our eyes and make us see the object is passing through lots of zones, some of the photons are reflected and sometimes the light of the star is emitted by a gas cloud. So we see that visible brightness is not a well scale. Because of all these reasons, there is a difference between the ratio of light intensities.

4) Explain all your work about observation.

First of all, we did star observation. We were in groups and in each group there were 2 people. We had our Star Map as well. Then our teacher showed different stars for every groups. Then I and my friend, first find the Canis Major on the sky and then by the help of it we found Gemini. After this part we looked at the sky and we looked at the map. At the end we found that the star we are looking for is the Procyon in the constellation Canis Minor. The second thing we have to do is that we took a guess for its visible brightness. For this process we had a comparison star called Daphne in Canis Major and with a visible brightness 2^m . Then we looked at its true visible brightness value from the computer program SkyMap. we did the same things for our second star Regulus. At the very end, we got our data and with the light intensity formula we calculated the ratio of light intensities.

As a result according to our guessing values the light intensity of Regulus is 1.58 times of Procyon and according to true values the light intensity of Regulus is 0.48 times of Procyon.