

## **Our Night Sky for September 23, 2024**

**Last week I mentioned that the size of the moons orbit varies. Let's talk about size and distance. The distance from the earth to the moon varies by about 50,00 kilometres. That's a very long way but compared to the average distance to the moon of 380,000 kilometres, its just a couple of percent of the average distance. You may have noticed already; astronomy can involve a lot of big numbers. The sun at it's closest is 147,100,000 Km or at it's farthest it is 152,100,000 Km from earth. You might notice that the differences between closest and farthest is very small compared to the large distances these objects are from earth. Just like you might do if you are asked how far is it to Vancouver. The distances produced from a quick search vary between 520 Km and 524 Km. Most of us would just drop the uncertainty and round the number to about 520 Km. The same is true for astronomical distances the moon is about 380,000 Km the variations are small enough that they can be set aside.**

**Another short hand used commonly in astronomy is to quote the earth is to refer to the average earth sun distance as one astronomical unit.**

**Using that as the standard measure the distance to Neptune is about 30 AU. Instead of 4,500,000,000 km**

**Greatly simplifying Our night sky**