



Starting up with Stellarium

Observe a Venus-Moon occultation

Material List:

A computer

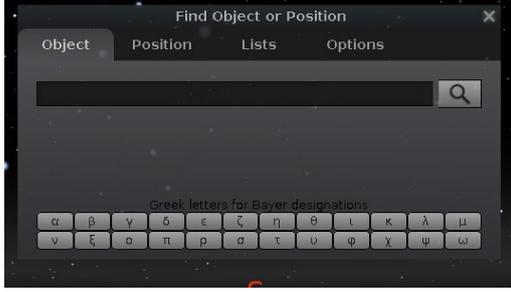
If available: a chorded mouse with a scroller wheel.

Stellarium (download and install, <https://stellarium.org/>)

Outline

In this activity, you are taught the basics in how to operate Stellarium. This activity comes together with several others, where you are given instructions on how to simulate given phenomena, complete selected tasks or just to find specific objects.

Procedure

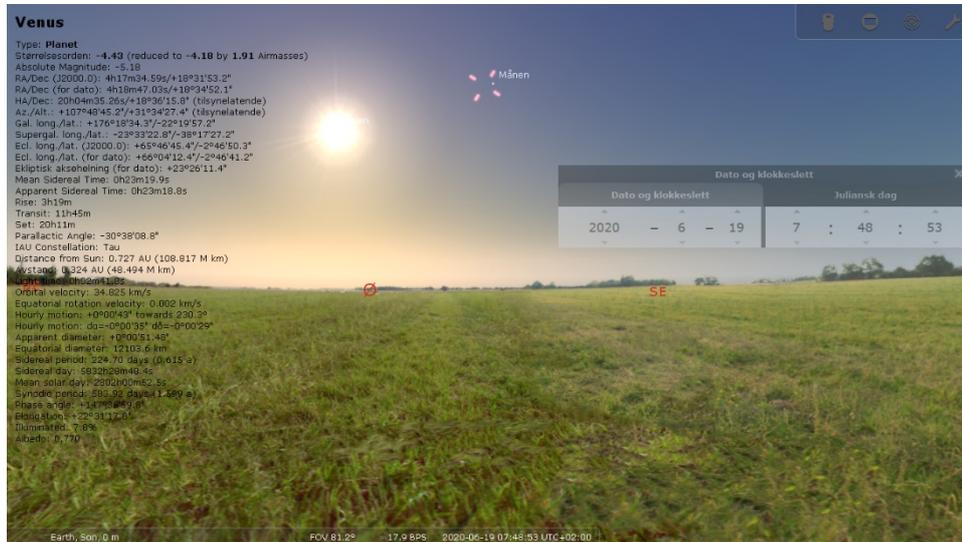
1	<h3>Getting started</h3> <p>Follow the instructions in our “Getting started with Stellarium guide” on onlineobservatory.eu</p>
2	<h3>Find Venus</h3> <p>Open the search panel () and type “Venus”. You might experience that Jupiter is not visible since it is below the horizon or close to the sun. If so, you can disable both the terrain () and atmosphere () in the program at the bottom menu.</p>   <p>Use your scroller wheel or PgUp/PgDn buttons to zoom.</p>



3

The Occultation

On Friday morning the 19th of June 2020, the moon occulted the planet Venus. This rare and exiting event could be observed throughout Europe.



4

Set the time (mind the timezone)

Use the left hand side menu, in which you find a button with an icon of a clock/time dial. Open the dialogue and set the time and date to:

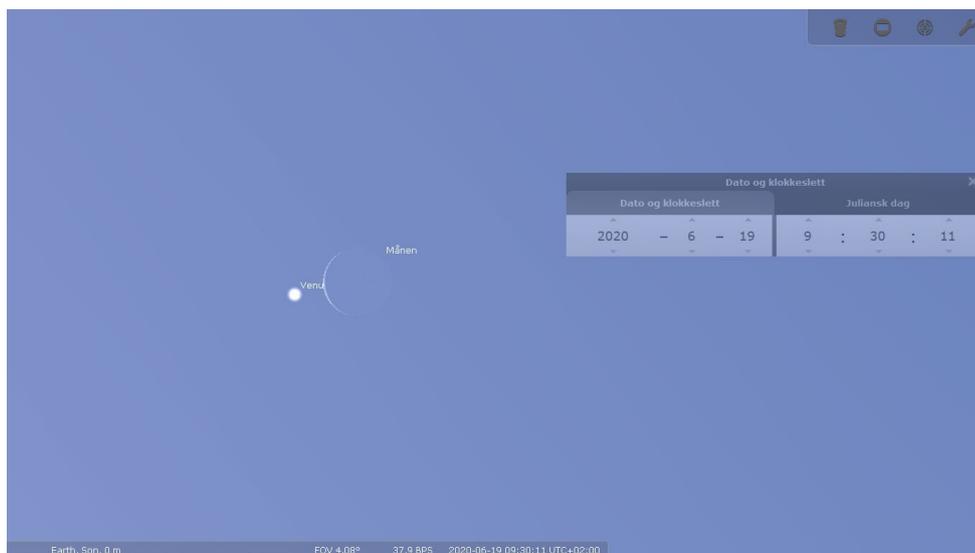
2020 – 6 – 19 09:30

NB The timezone here is Central European Summer Time (CEST), change it accordingly if you are in another timezone.

5

Search for the moon

In your left menu, click on the search-icon  to open the search dialog. Here you can type “Moon” or “Venus”. Hit Enter. You should now see something like this.





<p>6</p>	<h3>Now, let's see what happens..</h3> <p>Let the phenomena progress slowly, and take notes of what you see. Spend the time to answer these questions:</p> <ol style="list-style-type: none">1. When does the occultation begin seen from your position in Stellarium?2. How long time does it take from Venus and the moon touches each other until Venus completely disappears behind the moon?3. How long does it take before Venus reappears on the other side of the moon? (Hint: Try carefully to fast forward time)
<p>7</p>	<h3>Phases of Venus</h3> <p>If you zoom in on Venus, during this or any other observation of the planet, you will notice that it has phases, just like our Moon. Try to change the date, search and zoom in Venus again. How does the phase change during one year? How long does it take before it returns to the phase you saw in your first observations?</p>
<p>8</p>	<h3>Have fun!</h3> <p>Play around in Stellarium and see if you can discover something new. All the planets are there, and maybe if you remember the time and date of an eclipse, you can see it again in Stellarium. You can also find satellites, and even the International Space Station. And yes, they are there for real, so if you have clear skies outside you could go out and see these objects in real life as well.</p> <p>Enjoy!</p>

Further Resources/Activities:

Assessment:

1. Are you able to adjust time both ways, and also go from fast forward/backwards back to normal pace?
2. Can you find any constellations you know, and how to enable or disable the constellation graphics in Stellarium?
3. Can you set the time and date to the day you were born, and see where all the planets (and sun) were then?
4. Search up several Messier objects, by writing M followed by a number between 1 and 104. Zoom in on each one and tell your fellow students which is your favourite.