PSTricks

\texttt{pst-solarsystem}

Position of the visible planets, projected on the plane of the ecliptic; v.0.15

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1 introduction

For the method of calculation, I was guided by:


As we can not represent all the planets in the real proportions, only Mercury, Venus, Earth and Mars are the proportions of the orbits and their relative sizes observed. Saturn and Jupiter are in the right direction, but obviously not at the right distance.

The orbits are shown in solid lines for the portion above the ecliptic and dashed for the portion located below.

We can compare the view obtained with the following representation:


The use of the command is very simple, just specify the date of observation with the following parameters, for example:

\SolarSystem[Day=31,Month=06,Year=2001,Hour=23,Minute=59,Second=59]

By default, if no parameter is specified, \SolarSystem chooses the current day and hour.

The solarValues is enabled by default. It displays the values of longitude, latitude, and the distance in astronomical units.

The accuracy of the calculations is about 0.1 to 0.3 degrees (comparing to ephemeris the Bureau des Longitudes), which is more than enough for a performance graph.

Possible languages are DE, FR and the default EN. With the setting `language=DE`:

<table>
<thead>
<tr>
<th></th>
<th>Merkur</th>
<th>Venus</th>
<th>Erde</th>
<th>Mars</th>
<th>Jupiter</th>
<th>Saturn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Längengrad °</td>
<td>257.082</td>
<td>238.633</td>
<td>132.025</td>
<td>277.333</td>
<td>46.26</td>
<td>338.892</td>
</tr>
<tr>
<td>Breitengrad °</td>
<td>-3.35184</td>
<td>1.06505</td>
<td>0</td>
<td>-1.36582</td>
<td>-1.05934</td>
<td>-1.76028</td>
</tr>
<tr>
<td>Entfernung in AU</td>
<td>0.466689</td>
<td>0.724707</td>
<td>0.985296</td>
<td>1.44137</td>
<td>4.98418</td>
<td>9.75086</td>
</tr>
</tbody>
</table>
SolarSystem[language=DE]
SolarSystem[Day=30,Month=06,Year=2001,Hour=23,Minute=59,Second=59,
    viewpoint=1 -1 2,solarValues=false,language=DE]
2 List of all optional arguments for \texttt{pst-solarsystem}

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>ordinary</td>
<td>\texttt{\number\day}</td>
</tr>
<tr>
<td>Month</td>
<td>ordinary</td>
<td>\texttt{\number\month}</td>
</tr>
<tr>
<td>Year</td>
<td>ordinary</td>
<td>\texttt{\number\year}</td>
</tr>
<tr>
<td>Hour</td>
<td>ordinary</td>
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<tr>
<td>Minute</td>
<td>ordinary</td>
<td>0</td>
</tr>
<tr>
<td>Second</td>
<td>ordinary</td>
<td>0</td>
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<tr>
<td>language</td>
<td>ordinary</td>
<td>EN</td>
</tr>
<tr>
<td>solarValues</td>
<td>boolean</td>
<td>true</td>
</tr>
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