pst-solarsystem

Position of the visible planets, projected on the plane of the ecliptic; v.0.13

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Contents

For the method of calculation, I was guided by:

- that given by *Jean Meeus* astronomical calculations in the book for use by published by the Amateur Astronomical Society of France.
- and that of Guy Serane in *Astronomy & PC published* by Wiley & Sons.

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:

http://users.skynet.be/fa274406/rubriques/live/orbites/orbites.htm

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

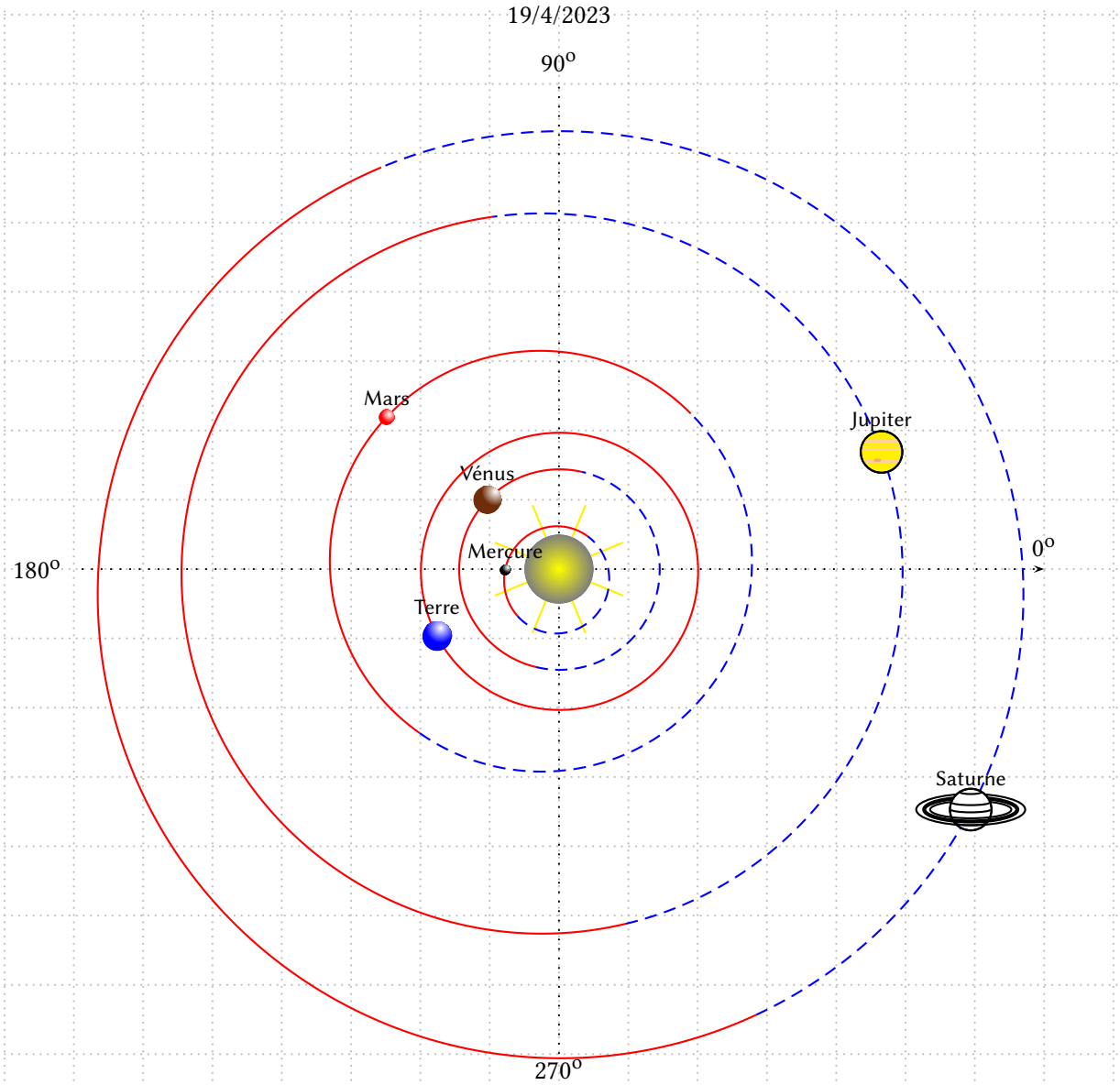
```
\SolarSystem[Day=31,Month=06,Year=2001,Hour=23,Minute=59,Second=59]
```

By default, if no parameter is specified, `\SolarSystem` gives the configuration day 0 hours to compile.

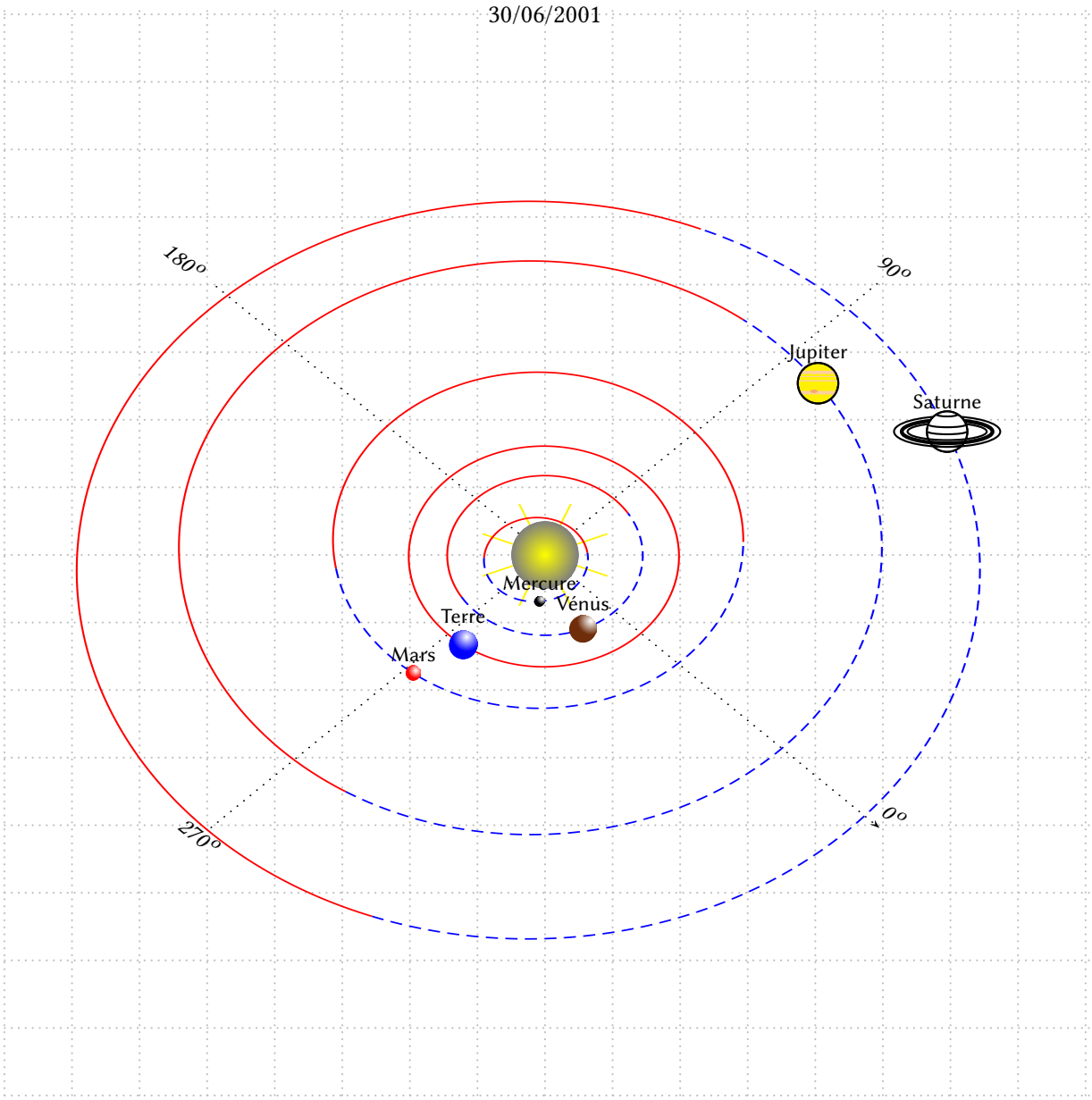
The `solarValues` is enabled by default. It displays the values of longitude, latitude, and the distance in astronomical units.

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.

http://www.imcce.fr/fr/ephemerides/formulaire/form_ephepos.php



	Mercure	Venus	Earth	Mars	Jupiter	Saturn
longitude at °	181.185	136.047	208.854	138.657	19.9642	329.709
latitude at °	5.17029	2.91569	0	1.84926	-1.28502	-1.45735
distance at U.A.	0.389229	0.718452	1.00422	1.65782	4.95107	9.82866




```
\SolarSystem[Day=30,Month=06,Year=2001,
             Hour=23,Minute=59,Second=59,
             viewpoint=1 -1 2,solarValues=false]
```

1 List of all optional arguments for pst-solarsystem

Key	Type	Default
Day	ordinary	\number \day
Month	ordinary	\number \month
Year	ordinary	\number \year
Hour	ordinary	12
Minute	ordinary	0
Second	ordinary	0
solarValues	boolean	true

References

[1] Denis Girou. “Présentation de PSTricks”. **in***Cahier GUTenberg*: 16 (**april** 1994), **pages** 21–70.

[2] Michel Goosens **andothers**. *The LaTeX Graphics Companion*. 2 **edition**. Reading, Mass.: Addison-Wesley Publishing Company, 2007.

[3] Herbert Voß. *PSTricks – Grafik für TeX und LaTeX*. 7 **edition**. Heidelberg **and** Berlin: DANTE – Lehmanns, 2017.

[4] Herbert Voß. *PSTricks – Graphics for TeX and LaTeX*. Cambridge: UIT, 2011.

[5] Herbert Voß. *Typesetting mathematics with LaTeX*. Cambridge: UIT, 2010.

[6] Timothy van Zandt. *PSTricks - PostScript macros for generic TeX*. 1993. URL: http://www.tug.org/application/PSTricks.

[7] Timothy van Zandt **and** Denis Girou. “Inside PSTricks”. **in***TUGboat*: 15 (**september** 1994), **pages** 239–246.

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