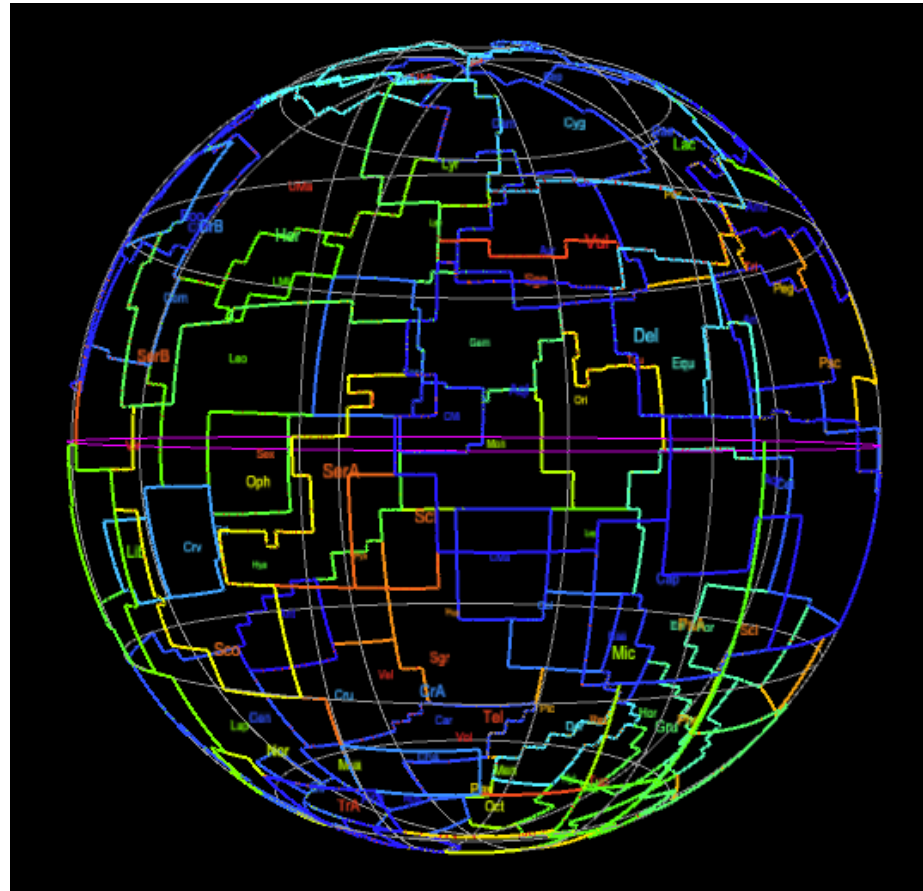


The Constellations



Swinburne Astronomy Online 3D PDF

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1 Description

1.1 The constellations

Constellations are groupings of stars which appear close together on the sky. The constellations help us identify regions of the sky. The individual stars within a constellation generally have no physical relationship, as they are at varying distances from our observation point on the Earth. When we project the stars onto the celestial sphere, however, they appear to be grouped together.

There are 13 constellations that make up the zodiac: Capricornus, Aquarius, Pisces, Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpius, Ophiuchus and Sagittarius. The zodiacal constellations are the constellations through which the Sun appears to pass each year. Twelve of these zodiac constellations feature in the pseudo-science of astrology, but Ophiuchus is also located in the zodiac. Note that the zodiac constellations do not all sit along the celestial equator. The zodiacal strip is tilted 23.4 degrees with respect to the ecliptic, due to the tilt of the Earth's rotation axis to the ecliptic.

There are 88 constellations which cover the entire celestial sphere as recognised by the International Astronomical Union. Our modern system of 88 constellations is based partly on constellations first labeled in Mesopotamia, Babylon, Egypt and Greece, and partly on constellations added to fill in the southern sky (plus regions of the northern sky previously neglected because they contain no bright stars).

In this 3D PDF you can toggle between the full 88 constellation boundaries and the 13 zodiacal constellation boundaries. The celestial equator is shown in magenta.

1.2 How to use this 3D PDF

The interactive 3D content appears on the next page of this document. You can interact with the 3D content in a variety of ways. Most of these can be found in the 3D toolbar (see below) that appears when you move the mouse cursor over the 3D figure.



To start, click and hold the left mouse button anywhere within the 3D figure. Then move the mouse around and see how the orientation changes. You can use the right mouse button in the same way to zoom in and out. Other interaction modes are also available. You can explore these by clicking on the drop-down menu of the left-most icon on the 3D toolbar.

Every 3D figure has a default view, which can be returned to by selecting View 1 from the toolbar Views menu. Some figures may also have other interesting views available for you to try.

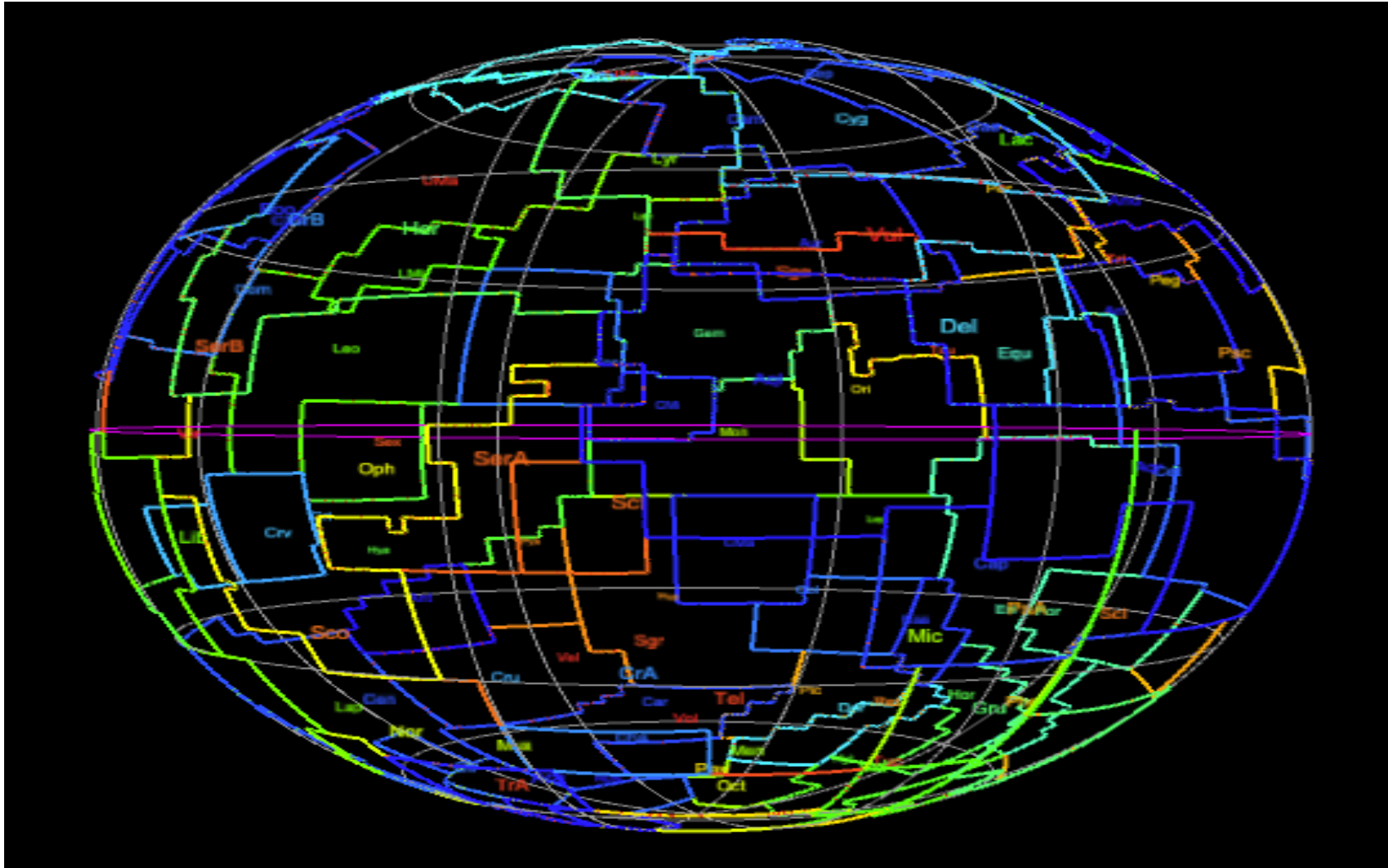
There are some additional keyboard shortcuts for you to use. (Note that you must first left mouse click on the 3D figure to utilise these shortcuts.)

arrow keys (up, down, left, right)	rotate the object
+ , -	zoom in or out
a	autospin
* , /	increase, decrease the autospin speed
[,]	roll the object clockwise, anti-clockwise
h	return to the default view

Some 3D figures may also allow you to show or hide certain types of objects from view. If available, this option will appear as a text link below the 3D figure, e.g. [Click here to....](#)

Note: The free Adobe Reader (Version 8 or higher) is required for these 3D PDFs.

2 The constellations



Click to show only the Zodiac constellations.

3 Credits

The data used for this PDF was sourced from the International Astronomical Union.

The 3D content in this PDF document was prepared with S2PLOT (Barnes et al., 2006, PASA, 23, 82; Barnes & Fluke, 2008, New Astronomy, 13, 599).

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