2024 年行星觀測資料
Planetary Phenomena for 2024

內行星 Inferior Planet	東大距 Greatest Eastern Elongation		西大距 Greatest Western Elongation	
水星 Mercury	3 月 25 日	25 March	1 月 12 日	12 January
	7 月 22 日	22 July	5 月 10 日	10 May
	11 月 16 日	16 November	9 月 5 日	5 September
	--	--	12 月 25 日	25 December
金星 Venus	--	--	--	--

外行星 Superior Planet	合 Conjunction		衝 Opposition	
火星 Mars	--	--	--	--
木星 Jupiter	5 月 19 日	19 May	12 月 8 日	8 December
土星 Saturn	2 月 29 日	29 February	9 月 8 日	8 September
天王星 Uranus	5 月 13 日	13 May	11 月 17 日	17 November
海王星 Neptune	3 月 17 日	17 March	9 月 21 日	21 September

行星觀測資料註解

水星和金星是太陽系中的內行星，它們比地球較接近太陽。火星、木星、土星、天王星和海王星是太陽系中的外行星，它們比地球離太陽遠。

從地球上觀看，太陽與某一顆行星之間的角度稱為「距角」。當內行星在傍晚時份跟隨太陽之後在太陽的東面出現，內行星便在東距角的位置。當內行星在晨早時份行於太陽之前在太陽的西方出現，內行星便在西距角的位置。內行星在「東大距」和「西大距」時的距角最大，這是觀測內行星最理想的時間。當內行星、地球和太陽連成一直線而內行星處於地球和太陽之間，便會產生內行星凌日現象（圖 1）。

當外行星、地球和太陽連成一直線而地球處於外行星和太陽之間，這稱為「衝」。當外行星和地球處於太陽的兩側時，這稱為「合」(圖 2)。發生「衝」時，外行星最接近地球並顯得最為明亮，這是觀測外行星的最佳時間。發生「合」時，外行星會受太陽光所影響而看不到。

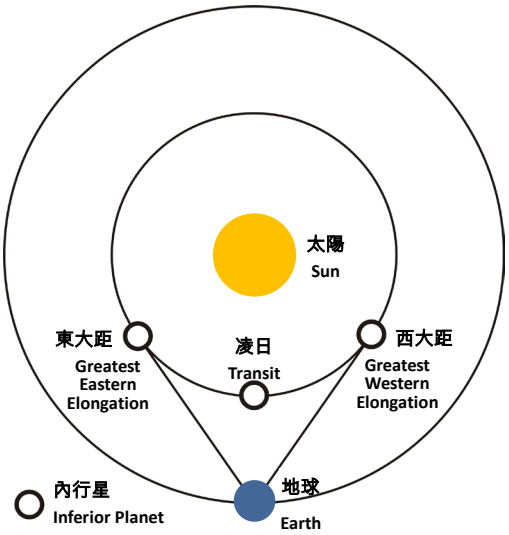

圖 1 Figure 1

Explanatory Notes on Observing the Planets

Mercury and Venus are inferior planets in the Solar System as they are closer to the Sun than the Earth. Mars, Jupiter, Saturn, Uranus and Neptune are superior planets in the Solar System as they are further away from the Sun than the Earth.

From the Earth's perspective, the angular distance between the Sun and a planet is the elongation. When an inferior planet follows the Sun and appears east of the Sun in the evening, it is in eastern elongation. When an inferior planet precedes the Sun and appears west of the Sun in the morning, it is in western elongation. The best times to observe the inferior planets are at their greatest eastern and western elongations. A transit of an inferior planet occurs when the inferior planet, the Earth and the Sun align in a straight line with the inferior planet in between (Figure 1).

When a superior planet, the Earth and the Sun align in a straight line with the Earth in between, it is known as opposition. When the superior planet and the Earth lie on the opposite sides of the Sun, it is known as conjunction (Figure 2). During opposition, the superior planet will be closest to the Earth and appear the brightest. It would be a suitable time for observing the superior planet. During conjunction, the superior planet will be invisible due to the Sun's glare.

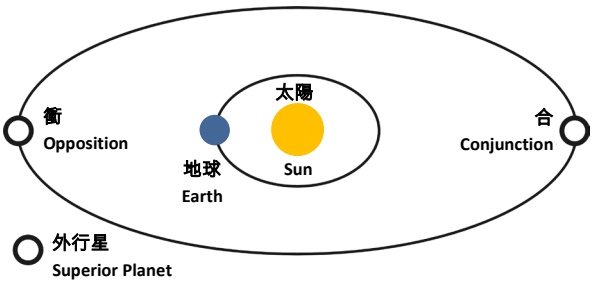

圖 2 Figure 2