La Société Guernesiaise Astronomy Section

Press Release

Transit of Mercury across the disc of the Sun
Monday, 11th November 2019

Members of the Astronomy Section of La Société Guernesiaise will be hoping for good weather on Monday, 11th November. Although the smallest planet Mercury takes just 88 days to zip around the Sun it only occasionally passes across the solar disc as seen from the Earth, and that is what it will be doing on that day. This event is known as a 'transit', and happens on average about 13 times per century. There have been several in recent years: in 1999, 2003, 2006 and 2016, but we will have to wait another 13 years – 2032 – for the next one.

This month's transit last for 5½ hours, but it will be visible from Guernsey for less than four hours. It will start at 12.35 pm, when the small black disc of the planet will cross the Sun's left side. It will go almost across the very centre of the solar disc, mid-transit being at 3.20 pm, and the last we will see of it will be at 4.30 pm when the Sun and Mercury will have set.

It is very dangerous to stare at the Sun or to observe it through any optical instrument, and people must not attempt to do so. Mercury is too small (3000 miles) and will be too far away (63 million miles) to see it through eclipse glasses, so special equipment is required to observe it safely. The Astronomy Section's observatory in St Peter's has appropriate equipment to provide safe observation, including a heliostat which projects a solar image onto a screen. Members will be busy observing and photographing the event.

The Observatory will be open to the public for just one hour, from 1.00 to 2.00 pm. It is located in La Rue du Lorier, behind the large bunker on La Route des Paysans. Signs will be put out when the Observatory is open. On-site parking will, however, be very limited; as La Houguette School will be in session it will not be possible to use the school car park.

A live feed of the event from NASA's Solar Dynamics Observatory in orbit around the Earth will also be shown.

Attached is a photograph of the 2016 transit of Mercury (credit: David Le Conte) and some interesting facts about Mercury transits.

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La Société
For nature, history and science in Guernsey

Transit of Mercury across the disc of the Sun, 9th May 2016

(David Le Conte, Guernsey Observatory)

Transits of Mercury – Some interesting facts

- Transits of the planet Mercury across the disc of the Sun take place when the planet passes between the Sun and the Earth.
- Mercury is the smallest planet, just 3030 miles (4880 km) in diameter, and is the closest (36 million miles, 58 million km) to the Sun.
- Even though Mercury will be at its closest to the Earth during the transit it will still be 63 million miles (100 million km) away.
- It will, therefore, appear as a tiny black dot.
- It takes Mercury about three minutes to cross the limb of the Sun on ingress, then 5½ hours to cross the Sun's disc, and another three minutes to cross the limb on egress.
- Mercury orbits the Sun in just 88 Earth days. Transits, however, occur on average only 13 times per century.
- Transits do not happen each time Mercury is on the Earth side of the Sun because its orbit is inclined at 7 degrees to the plane of the Earth's orbit. It therefore usually passes above or below the Sun.
- Mercury and Venus are the only planets which can transit the Sun as they are the only ones which orbit nearer the Sun than the Earth does. Transits of Venus, however, are much rarer than transits of Mercury. The next transit of Venus will be in 2117!
- The 2019 transit will be visible in its entirety from South America, eastern North America, West Africa and the Antarctic. It will be partially visible from Europe, Africa, and the rest of North America.
- Transits of Mercury always occur in May or November.
- The last transit was in May 2016 and was viewed from Guernsey.
- The next transit of Mercury will be in November 2032and will again be partially visible from Guernsey. Transits in 2039 and 2049 will be entirely visible from here.
- Transits of Mercury were predicted by Johannes Kepler (1571-1630), and the first one to be observed was by Pierre Gassendi (1592-1655) in 1631. Other observations followed, including the one of 1677 which was observed from St Helena by Edmond Halley (1656-1742).
- Halley realised that timing such a transit could provide a measure of the scale of the solar system, but that transits of the larger and closer Venus would be needed to give the precision necessary, something which was confirmed by French observations of the Mercury transits of 1723 and 1753.

David Le Conte, November 2019