



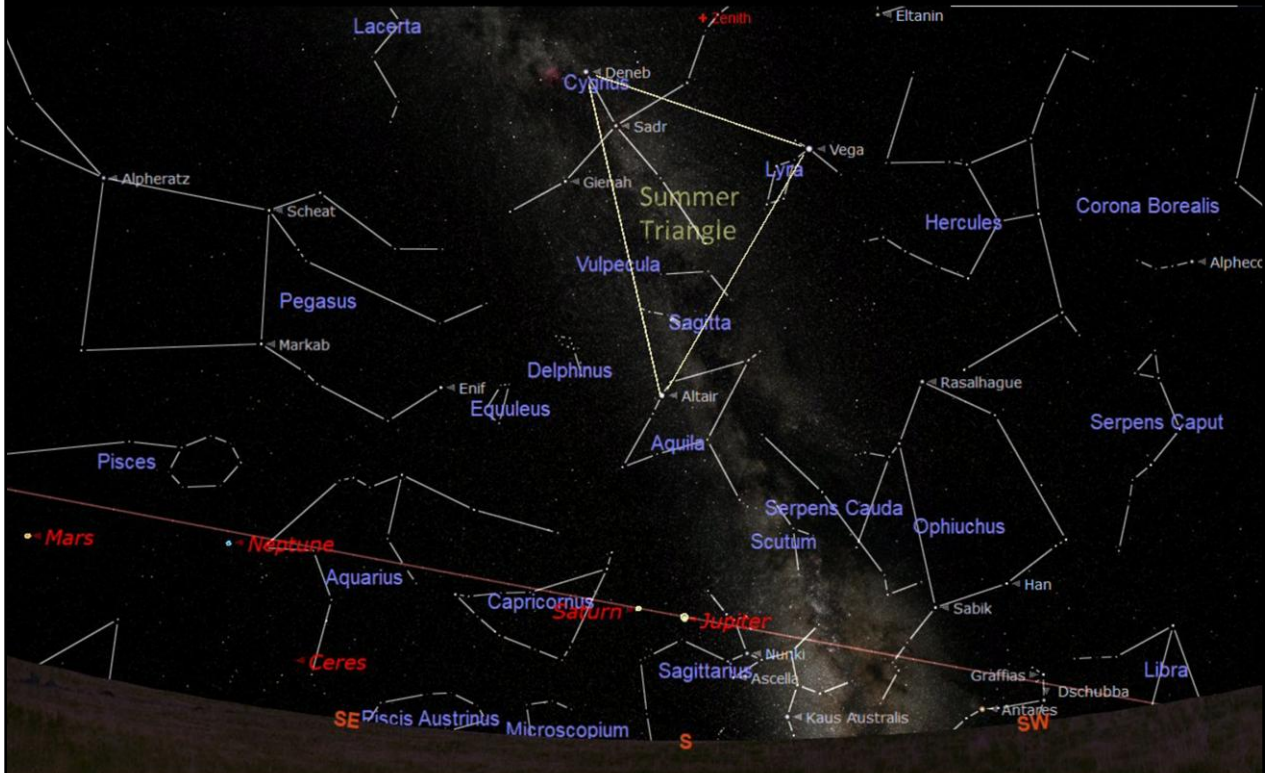
Jupiter Saturn Conjunction

Beginners Zoom Meeting 21st October 2020

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This presentation was given to the Newbury Astronomical Society Main Meeting but may be given to a Beginners Meeting at a later time.

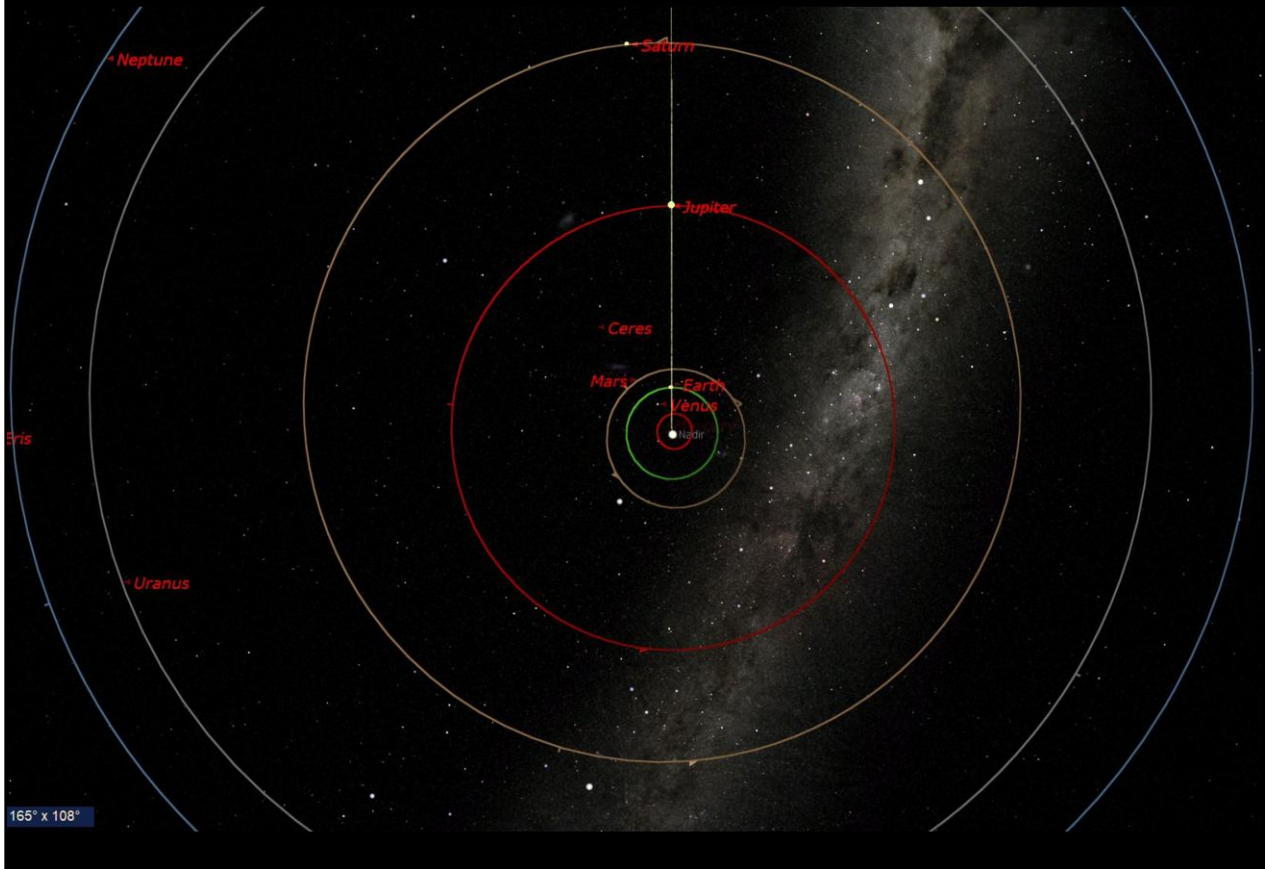
Jupiter and Saturn were at Opposition July 2020



Jupiter Opposition 14th July and Saturn Opposition 20th July

The chart shows the positions of the planets observable in the night sky in July. Jupiter and Saturn were both at Opposition in July, Jupiter on 14th July and Saturn on 20th July. The oppositions were the exact time when Earth overtook (to be more precise 'undertook') Jupiter and Saturn on their orbits around the Sun.

Jupiter at opposition on 14th July 2020

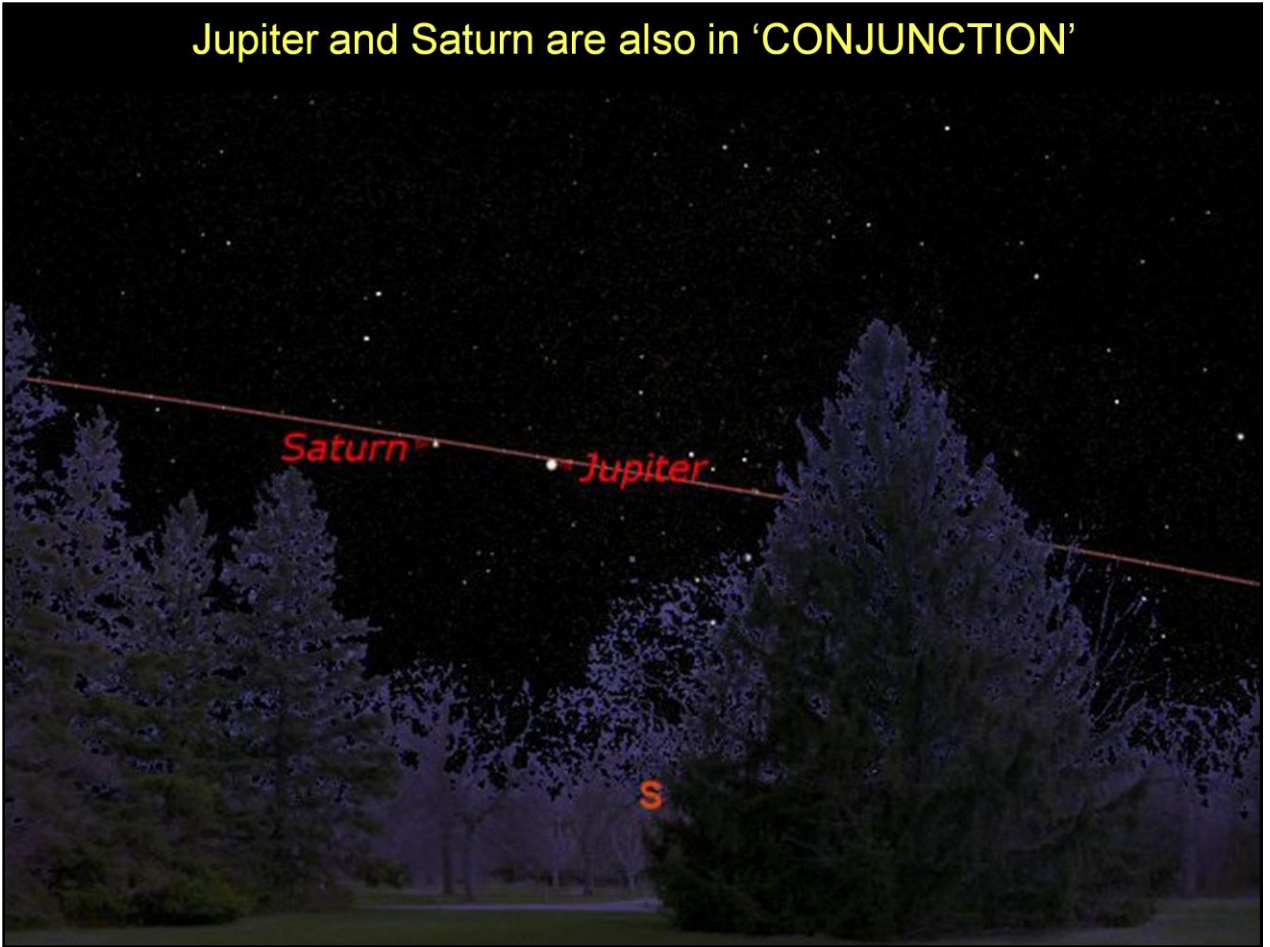


When the planets were at Opposition they were due south at midnight 01:00 BST (00.00 GMT) during the nights of Jupiter on 14th July and Saturn on 20th July.

At these times the planets were at the centre of the night sky in the south and at their maximum altitude on the Ecliptic above the horizon.

Earth was located in a direct line between Jupiter (or Saturn) with the Sun on the opposite side of Earth at midnight.

Jupiter and Saturn are also in 'CONJUNCTION'



The chart above shows the positions of the planets Jupiter and Saturn as they appeared in July 2020. This is because Jupiter and Saturn are moving into a very close 'Conjunction' at the end of this year.

This interesting event, involving Jupiter and Saturn, will develop and become even more interesting through the months from now until the end of this year.

Jupiter and Saturn are located close together in the sky at the moment and this is what astronomers call a 'Conjunction'.

This is a term used when two (or more) objects appear to move close together in the sky.

Saturn and Jupiter imaged



A DSLR Camera image of the (wide) conjunction of Jupiter and Saturn using the DSLR Camera Mount and the Finder Mo

The planets are currently (21st September) still quite far apart but are moving closer together.

They will be at their closest Conjunction on 21st December 2020.

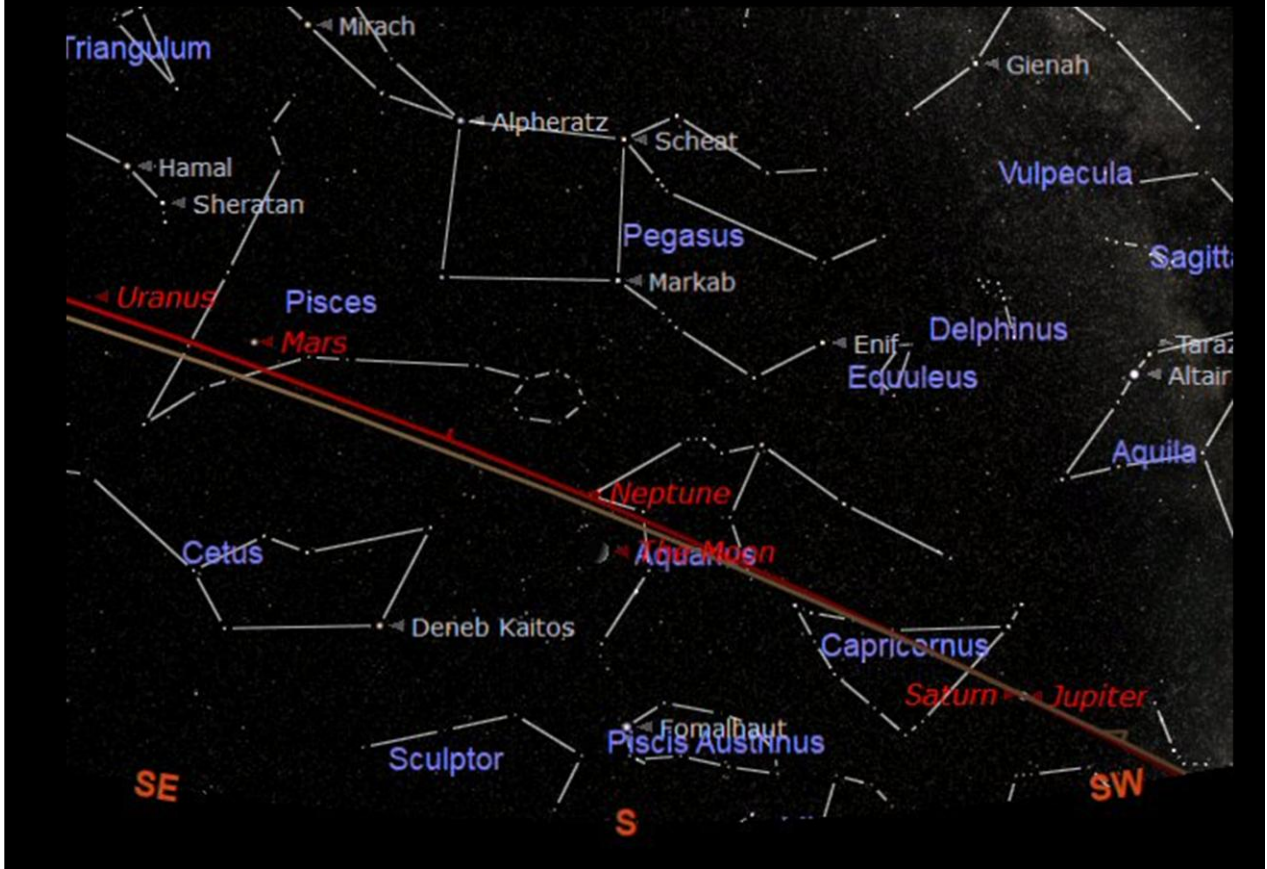
Jupiter and Saturn at closest conjunction on 21st December



The chart above shows the positions of the planets Jupiter and Saturn so close together in December that they appear to be one bright object with two names.

This is because Jupiter and Saturn are moving into this very close 'Conjunction' at the end of this year.

The orbits of Jupiter and Saturn are converging



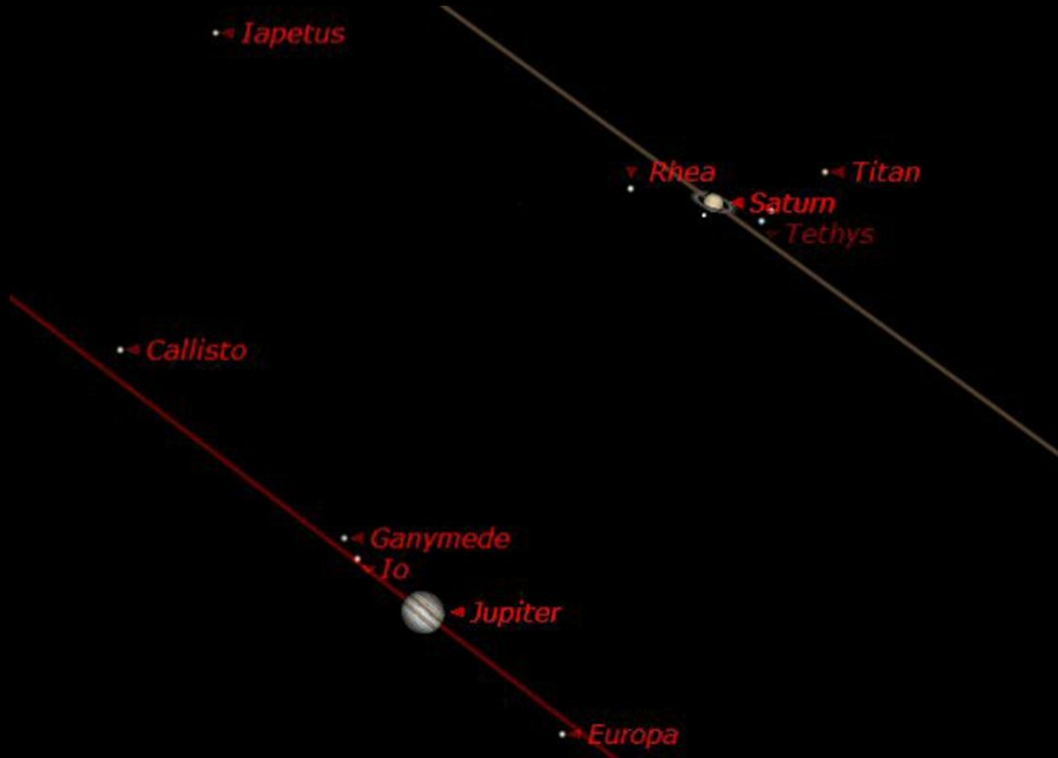
The two Gas Giant Planets have appeared close together in the sky all summer and will continue to move even closer together until the end of the year.

The converging orbital paths of the planets are shown on the chart above.

The orbital paths of the planets are shown as red for Jupiter and brown for Saturn.

It can be seen on the chart above that the orbital paths are converging and towards the end of the year will cross as the planets move west.

Jupiter and Saturn in Conjunction on 21st December 2020



Jupiter and Saturn will be just 0.1° apart (Full Moon is 0.5° diameter)

The chart above shows how the two planets and their moons will appear using a telescope around the 21st December.

They should fit into the field of view of most telescopes and even some larger telescopes using a low power eyepiece.

Jupiter and Saturn will not be any closer to each other than they normally are and will still be moving around their established orbits. This conjunction is just a 'line of sight' effect from our point of view on Earth. The two planets will actually be as far apart from each other as Earth is from Jupiter (about 750 million kilometres). Jupiter is approaching Saturn because it is moving faster than Saturn along its orbital path and will overtake Saturn on 21st December. From our point of view they will appear very close together so at this time the two planets will be at their closest conjunction. The planets will be just 0.1° or 6 arc-minutes (6') apart in the sky.

Beginner's Website:
naasbeginners.co.uk