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# Five planets are aligned in night sky for first time in 18 years

Throughout June, you can see Mercury, Venus, Mars, Jupiter and Saturn in a row with your naked eye

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The best planetary party in 18 years has begun. Like a 17th-century astronomer, you can join it by just looking up.

Throughout June, sky watchers can see Earth's five closest planetary neighbors in a row with their naked eyes. About half an hour before sunrise, Mercury, Venus, Mars, Jupiter and Saturn are aligned in their natural order from the sun stretching in a diagonal starting low in the east. On June 3 and 4, the distance between Mercury and Saturn was only 91 degrees.

"Planets are often getting closer to each other and farther away from each other, but this is just a particularly fun order. It's just coincidence," said Michelle Thaller, an astronomer at NASA. "It's just kind of this really sort of fun tour of the solar system that you can take for free."

When celestial bodies appear close together from Earth, astronomers call the spectacle a conjunction. Conjunctions of a few planets are fairly common and occur every few years or so, but all five planets line up only once every two decades. The last time the five planets aligned was in December 2004, and the next alignment will not occur until 2040. Because of different orbits and tilts, all eight planets will never be perfectly aligned.

## How to watch

While a telescope or binoculars can aid skygazing, the planets will shine brighter than surrounding stars and should be easy to spot with the naked eye. Just head out about 30 minutes before sunrise and hope for a clear horizon. Darker skies are better, but the planets will stand out even over city lights.

“Even in the city, these are bright enough — you should be able to see. Go up on a friend’s balcony or on the rooftop. As long as you can get a nice clear horizon and clear skies, you can see it,” Thaller said.

Mercury is the hardest of the planets to see because of its proximity to the sun. The small dim planet is usually lost in the glare of the sunrise or sunset, but the planet will travel progressively farther from the sun as the month goes on. Thaller, who has seen Mercury only about half a dozen times in her lifetime, experienced her best showing near Dulles International Airport.

The best opportunity to see the five planets will occur on June 24. Mercury should be much easier to spot as it moves away from the sun and will be up an hour before the sun rises. As a bonus, Earth’s crescent moon will also position itself between Venus and Mars and act as a stand-in for Earth. Sky watchers can see a spectacular view of the six celestial bodies in order: Mercury, Venus, Earth’s moon, Mars, Jupiter and Saturn. The distance between Mercury and Saturn will be 107 degrees, according to Sky & Telescope.

Thaller said the rare planetary alignment poses no danger to people on Earth, but the gravitational pull from all the planets on one side can be observed ever so slightly through tides on Earth. Because of its distance, Venus exerts the largest tidal force on Earth, although it’s just a small fraction compared with our moon. Thaller said spacecraft also can feel extremely small forces — on the scale of fractions of an atom — as gravity from the planets pull on them.

Sightings of planetary conjunctions have been made for centuries and date to the ancient Greeks observing the movements of these five planets with the unaided eye. (Uranus, Neptune and dwarf planet Pluto were not discovered until after the telescope was invented in the 17th century.) People thought at the time that perhaps they were gods or spirits. The word “planet” is derived from the Greek word “planetes,” which means “wanderer.”

“People noticed that these were different ... most of the stars stayed in their positions relative to other stars, but these planets seem to wander around the sky,” Thaller said. “Sometimes they all happened to be lined up in one part of the sky.”