

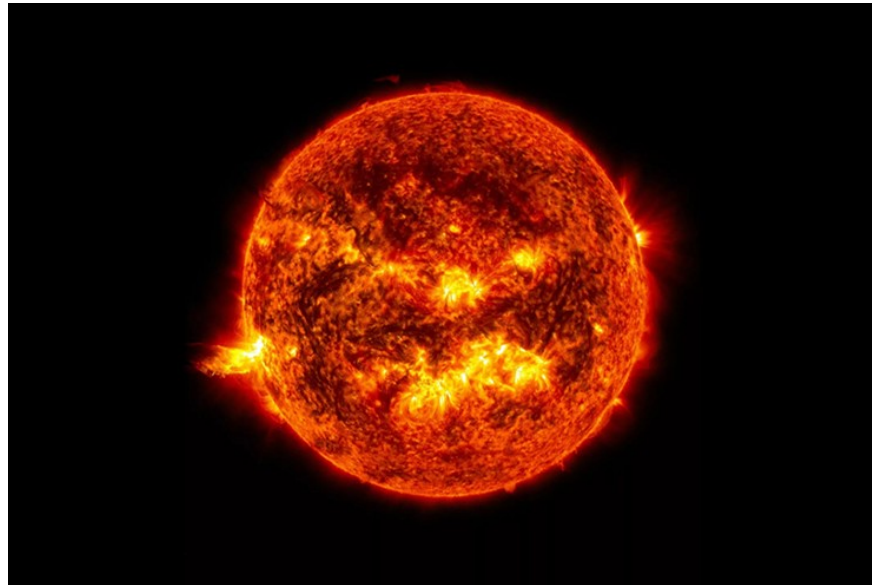
Amazing Space Records You May Not Know

The universe is a great wonder, not only because of its enormous size but also because of the wonders it contains.

Although we have discovered a lot about space, there are still many interesting things waiting to be discovered. Here are some rare facts about space that not everyone knows.

The largest star is 2,150 times the size of the Sun.

The largest known star is Stephenson 2-18, also known as Stephenson 2-DFK 1. It is a red supergiant located in the constellation Scutum, approximately 18,900 light years from Earth. Stephenson 2-18 is estimated to be 2,150 times the size of our Sun, with a diameter of 3 billion km.



Description of Stephenson's star 2-18.

To put this enormity into perspective, if Stephenson 2-18 were placed in the Sun's place, its surface would reach the orbit of Saturn. It would take us 9 hours to travel around the circumference of Stephenson 2-18 at the speed of light, while it would take just 14.5 seconds to do the same for the Sun.

It is estimated that up to 10 billion Suns could fit inside Stephenson 2-18. The star's enormous size has led scientists to consider calling it a 'red supergiant' instead of just a 'supergiant'.

It's important to note, however, that we're observing Stephenson 2-18 from a very distant location, with a 50% uncertainty in the measurements. This means that the star's actual size may not be as large as estimated, but it's certainly still dozens of times larger than the Sun. There are other stars in the universe that are also larger, such as WOH G64 and UY Scuti.

The brightest object in the universe

When we think of bright objects in space, few people picture a black hole. In fact, black holes absorb light due to their strong gravitational pull, leaving us with nothing but blackness. However, the truth is more complicated. A black hole can produce light through the process of absorbing matter.



Black hole J059-4351 is 500,000 billion times brighter than the Sun.

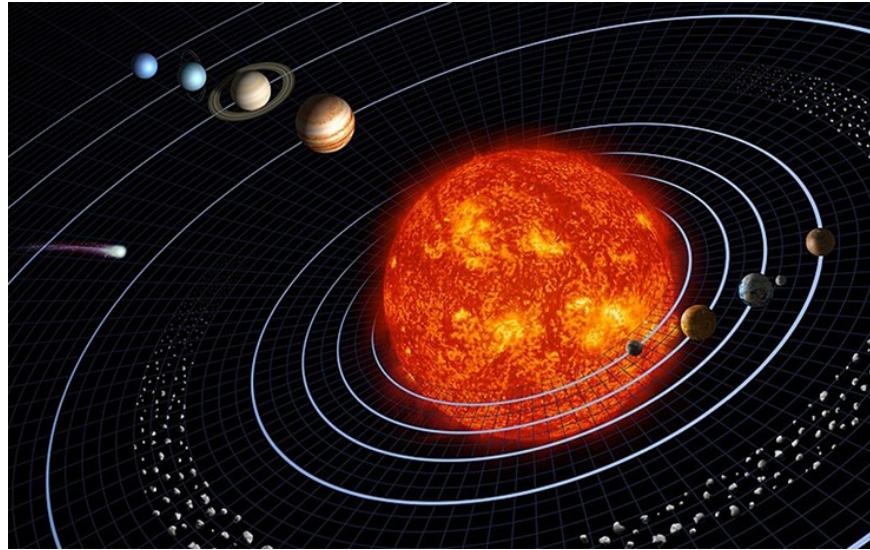
About 12 billion light years away, there is a supermassive black hole called J059-4351. It has a mass about 17 billion times that of the Sun and is located at the center of a galaxy filled with matter. J059-4351's gravity is so strong that it consumes the equivalent of the Sun's mass every day.

As matter, including gas, rock, and molecules, approaches the black hole J059-4351, it is accelerated to nearly the speed of light and subjected to enormous friction. This process releases energy in the form of radio waves and visible light. This is also why meteors burn up when they enter Earth's atmosphere.

The light emitted by this process makes the accretion part of the black hole shine brightly, with a luminosity of 500,000 billion times that of the Sun. While nuclear reactions in the Sun convert less than 1% of matter into energy, the figure for black holes is up to 40%. It's truly astonishing.

The Sun accounts for 98.86% of the mass of the Solar System.

To humans, the Earth seems very large, but in fact it is only a small part of the Solar System. The mass of the Earth cannot be compared to other planets such as Jupiter and Saturn. Our Solar System consists of several planets, moons and asteroids, but most of the mass is concentrated in the Sun.



Specifically, 98.86% of the mass of the Solar System belongs to the Sun, while all other planets, Moons and asteroids account for only the remaining 1.14%. Notably, Jupiter is 2.5 times heavier than all other planets combined, while Earth accounts for only about 0.1% of the mass of the entire Solar System.

This shows how incredibly huge space really is. Even with all the planets combined, Jupiter is still more than twice the mass of all of them. The Sun, at nearly 100 times the mass of all the planets combined, is tiny compared to some of the other stars in the universe.

Space is not only vast, it is also full of wonders. The facts we have mentioned so far mainly relate to the enormous size of objects in space, but there are many more amazing things. We will probably never discover all the mysteries of the universe, but each new discovery opens up new horizons of wonder.

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