

NASA successfully sent a software update to Voyager 2 from a distance of 19.9 billion km

Space reported on October 23 that NASA has just completed sending an important software update to the Voyager 2 probe, operating 12 billion miles (about 19.9 billion km) from Earth.

The process of sending data to Voyager 2 took nearly 18 hours to complete. This update is expected to help Voyager 2 maintain contact with Earth, extend operating time and avoid errors that occurred on its 'twin brother' Voyager 1.



Last year, while the Voyager 1 spacecraft was operating more than 22 billion kilometers from Earth, there was a problem with the guidance and navigation system (AACS), the system that helps the ship and its antennas operate in the right direction. . In addition, the ship also had data errors and sent junk data to the control station on Earth. And last September, NASA also updated the software for Voyager 1.

As expected, the Voyager 2 update will be launched on October 28. Later, NASA will also send an update to Voyager 1.

By firing their thrusters, the pair of Voyager probes can adjust their antennas independently. But every time the engine is fired, a layer of sediment will appear in the fuel intake manifold. Over decades of operation, more and more sediment has accumulated, causing engineers to worry that it will completely clog the pipes. Therefore, in September and October 2023, engineers began to let the spacecraft rotate more to reduce the frequency of engine firing, helping to slow down the accumulation of residue in the fuel pipes. The ship will operate for at least another 5 years if this adjustment is successful.

The Voyager 1 and 2 space probes were successfully launched by NASA in 1977 to carry out the mission to explore space outside the solar system. After 45 years, both still work, but not really well.

The Voyager 1 space probe gets a software update

NASA first reported problems with Voyager 1 in May 2022. The coupling and control system (AACS), which is responsible for keeping the spacecraft's antenna pointed at Earth, failed to return data. Precise telemetry data. NASA engineers later discovered the cause - AACS was sending data through an "ancient" on-board computer, which was said to have "stopped working many years ago". The rest of Voyager 1 appears to be fine and collecting data as usual.



The problem was successfully fixed after NASA sent a command to Voyager's AACS, instructing it to use the correct computer to process the data. This may sound like a simple self-repair procedure, but it's not. Voyager 1 is currently operating more than 22 billion kilometers from Earth (still moving further), with low power and weak radio connections. Normally, radio signals take nearly 22 hours to reach Voyager 1. Additionally, Voyager 1 was designed in the 1970s, so the ship's computer system was certainly starting to become outdated and inefficient. than.

You finished reading the article "**NASA successfully sent a software update to Voyager 2 from a distance of 19.9 billion km**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.