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PARKER SOLAR PROBE SMASHES RECORD FOR CLOSEST APPROACH TO SUN: NASA

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An illustration from NASA shows the Parker Solar Probe spacecraft approaching the sun. | Photo Credit: Steve Gribben

NASA's Parker Solar Probe, mankind's first mission to 'touch' the Sun, has set a new record for closest approach to the sun by a human-made object, the U.S. space agency announced.

Parker Solar Probe was launched on August 12 this year on an unprecedented, seven-year long journey to unlock the mysteries of the sun's fiery outer atmosphere and its effects on space weather.

The spacecraft passed the current record of 26.55 million miles from the sun's surface on October 29 as calculated by the Parker Solar Probe team, NASA said in a statement.

The previous record for closest solar approach was set by the German-American Helios 2 spacecraft in April 1976, it said.

As the Parker Solar Probe mission progresses, the spacecraft will repeatedly break its own records, with a final close approach of 3.83 million miles from the Sun's surface expected in 2024, it said.

"It's been just 78 days since Parker Solar Probe launched, and we've now come closer to our star than any other spacecraft in history," said Project Manager Andy Driesman, from the Johns Hopkins Applied Physics Laboratory in the U.S.

"It's a proud moment for the team, though we remain focused on our first solar encounter, which begins on October 31," Mr. Driesman said.

The probe is also expected to break the record for fastest spacecraft travelling relative to the sun. The current record for heliocentric speed is 153,454 miles per hour, set by Helios 2 in April 1976, according to NASA.

The Parker Solar Probe team periodically measures the spacecraft's precise speed and position using NASA's Deep Space Network, or DSN.

The DSN sends a signal to the spacecraft, which then retransmits it back to the DSN, allowing the team to determine the spacecraft's speed and position based on the timing and characteristics of the signal.

Parker Solar Probe's speed and position were calculated using DSN measurements made on October 24, and the team used that information along with known orbital forces to calculate the spacecraft's speed and position from that point on.

Parker Solar Probe will begin its first solar encounter on October 31, continuing to fly closer and closer to the Sun's surface until it reaches its first perihelion -- the point closest to the Sun -- on November 5, NASA said.

The spacecraft will face brutal heat and radiation conditions while providing humanity with unprecedentedly close-up observations of a star and helping us understand phenomena that have puzzled scientists for decades, according to the US space agency.

These observations will add key knowledge to NASA's efforts to understand the Sun, where changing conditions can propagate out into the solar system, affecting Earth and other worlds, it said.

The researchers propose that the bird be given an IUCN categorisation of "Vulnerable."

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