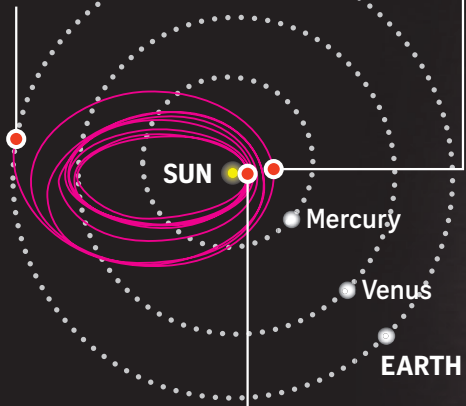


Nasa's mission to kiss the Sun

24 PASSES THROUGH THE SUN'S CORONA OVER A 7-YEAR PERIOD

August 2018
Launch

November 2018
First fly-by



December 2024

- 149.6 million km: Distance between the Sun and Earth
- 6.16 million km: The closest the Parker Solar Probe will get to the Sun, seven times closer than any previous spacecraft

PARKER SOLAR PROBE (UNMANNED AIRCRAFT)

- **Length:** 3m
- **Weight:** 685kg
- **Speed:** 692,000kmh (Speed of spacecraft when it reaches the point closest to the Sun, making it the fastest spacecraft in history)
- First spacecraft to be named after a living person – astrophysicist Eugene Parker, 91, who first described solar wind, the stream of charged particles that flows constantly from the Sun, in 1958
- Carries photos of Parker, and a digital copy of his seminal 1958 solar-wind paper in a memory card that also bears the names of more than 1.1 million people, including Star Trek icon William Shatner. They had responded to a Nasa invitation in March to kiss the Sun with the Parker Solar Probe.

Magnetometers

Solar array wings

Antenna

Solar array cooling system

ABOUT THE MISSION

- First to fly direct into the Sun's atmosphere, known as the corona
- Take measurements of the Sun's electric and magnetic fields and waves
- Collect information to feed models for predicting solar flare-ups and outbreaks of space weather that can scramble satellites, endanger astronauts aboard the International Space Station, and knock out power grids back on Earth

Thermal protection system can withstand temperatures of nearly 1,400 deg C

Wide-field imager for solar probe telescopes to take images of corona and inner heliosphere

The Sun's unstable corona produces

- Solar wind
- Flares
- Magnetic and plasma explosions