NASA: Voyager 1 Probe Has Left the Solar System

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Los Angeles (AP) — NASA's Voyager 1 probe has left the solar system, boldly going where no machine has gone before.

Thirty-six years after it rocketed away from Earth, the plutonium-powered spacecraft has escaped the sun's influence and is now cruising 11 1/2 billion miles away in interstellar space, or the vast, cold emptiness between the stars, NASA said Thursday.

And just in case it encounters intelligent life out there, it is carrying a gold-plated, 1970s-era phonograph record with multicultural greetings from Earth, photos and songs, including Chuck Berry's "Johnny B. Goode," along with Beethoven, Bach, Mozart and Louis Armstrong.

Never before has a man-made object left the solar system as it is commonly understood.

"We made it," said an ecstatic Ed Stone, the mission's chief scientist, who waited decades for this moment.

NASA celebrated by playing the "Star Trek" theme at a news conference in Washington.

Voyager 1 actually made its exit more than a year ago, scientists said. But since there's no "Welcome to Interstellar Space" sign out there, NASA waited for more evidence before concluding that the probe had in fact broken out of the hot plasma bubble surrounding the planets.

Voyager 1, which is about the size of a small car, is drifting in a part of the universe littered with the remnants of ancient star explosions.

It will study exotic particles and other phenomena and will radio the data back to Earth, where the Voyager team awaits the starship's discoveries. It takes about 17 hours for its signal to reach Earth.

While Voyager 1 may have left the solar system as most people understand it, it still has hundreds, perhaps thousands, of years to go before bidding adieu to the last icy bodies that make up our neighborhood.

At the rate it is going, it would take 40,000 years to reach the nearest star, Alpha Centauri.

Voyager 1's odyssey began in 1977 when the spacecraft and its twin, Voyager 2, were launched on a tour of the gas giant planets of the solar system.

After beaming back dazzling postcard views of Jupiter's giant red spot and Saturn's shimmering rings, Voyager 2 hopscotched to Uranus and Neptune. Meanwhile, Voyager 1 used Saturn as a gravitational slingshot to power itself past Pluto.

Last year, scientists monitoring Voyager 1 noticed strange happenings that suggested the spacecraft had broken through: Charged particles streaming from the sun suddenly vanished. Also, there was a spike in galactic cosmic rays bursting in from the outside.

Since there was no detectable change in the direction of the magnetic field lines, the team assumed the far-flung craft was still in the heliosphere, or the vast bubble of charged particles around the sun.

The Voyager team patiently waited for a change in magnetic field direction — thought to be the telltale sign of a cosmic border crossing.

But in the meantime, a chance solar eruption that shook Voyager I last spring provided the scientists with the data they needed, convincing them the boundary had been crossed in August of last year.

With the new data, "it took us 10 seconds to realize we were in interstellar space," said Don Gurnett, a Voyager scientist at the University of Iowa who led the new research, published online in the journal Science.

Not everyone is on board.

The new observations are fascinating, but "it's premature to judge," said Lennard Fisk, a space science professor at the University of Michigan and former NASA associate administrator who was not part of the team. "Can we wait a little while longer?

Maybe this picture will clear up the farther we go."

Fisk was bothered by the absence of a change in magnetic field direction.

Voyager 2 trails behind at 9 1/2 billion miles from the sun. It may take another three years before Voyager 2 joins its twin on the other side. Eventually, the Voyagers will run out of nuclear fuel and will have to power down their instruments, perhaps by 2025.

Until then, Voyager 1 is "the little spacecraft that could," said mission project manager Suzanne Dodd of the NASA Jet Propulsion Laboratory. "We keep on going."

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