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Pioneer 10 Goes Silent

An artist's rendering of the Pioneer spacecraft in deep space courtesy NASA.

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February 27, 2002 JPL, Pasadena, California - Thirty-one years ago on March 2, 1972, NASA launched the Pioneer 10 spacecraft from Cape Kennedy aboard an Atlas Centaur rocket. According to officials, it was the "fastest spacecraft ever to leave Earth." Its mission was to travel through the asteroid belt, be the first manmade machine to pass Jupiter and be the first spacecraft to use planetary gravity to change course and to reach escape velocity from the solar system.

Its twin spacecraft Pioneer 11 was launched on April 5, 1973. It was Pioneer 11 that obtained dramatic images of the Great Red Spot. As it passed the great planet, NASA reported the craft "used Jupiter to accelerate to a velocity 55 times that of the muzzle velocity of a high speed rifle bullet, 108,000 mph (173,000 kilometers per hour)." Both Pioneer 10 and 11 were designed and built by engineers at TRW. Both probes passed Pluto and headed out into deep space long ago, traveling at 27,000 mph and are now more than 7 billion miles from earth. According to NASA, only Pioneer 10 is moving in the opposite direction to the Sun's motion through the galaxy. Pioneer 11 took an opposite route with the direction of the Sun's path.

Pioneer 10 was powered by electricity derived from the warmth of decaying plutonium 238 and was intended to last only 21 months. Thirty-one years later, it was still going and sending signals until its last known beep on January 22, 2003. Jet Propulsion Lab (JPL) officials now say the connection is gone for good.

In memory of all that Pioneer 10 has contributed to human knowledge, a great plus to weigh against the tragic explosion of Columbia, I received permission from *The Philadelphia Inquirer* to reprint at Earthfiles.com its February 27, 2003 editorial about the "passing away" of the indefatigable satellite.

Pioneer 10 Lost In Space After 31 Years of Success

With a gentle dying-out in outer space, an era has ended. Pioneer 10, a satellite launched in 1972, has evidently ceased to send signals or return calls. The Deep Space Network of the Jet Propulsion Laboratory in Pasadena received its last known beep on January 22, 2003. JPL called again on February 7. Nothing - and lab officials have decided to let it

rest.

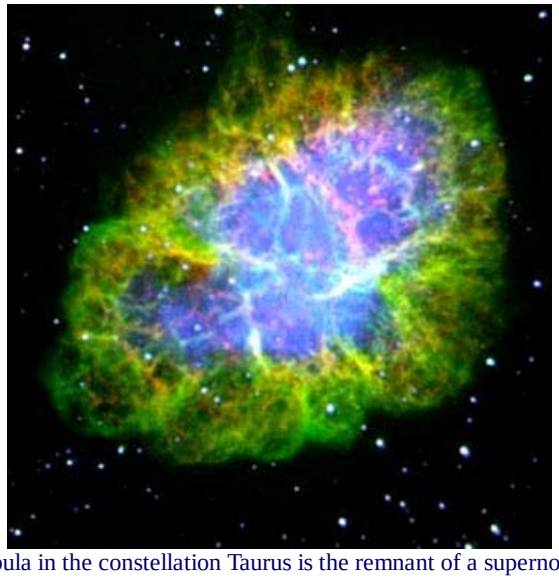
Pioneer is a needed reminder, as the country still grieves for the shuttle Columbia astronauts, that sometimes these things go right. Sometimes the U. S. space program does the impossible pretty darned well.

After 31 years of space flight, Pioneer is more than 7.6 billion miles away from Earth, way out of the solar system. That's far. That's so far that when JPL sent out its electronic hello, it took the signal - although traveling at the speed of light - 11 hours and 20 minutes to reach Pioneer.
Just like the Skipper's boat set out for a three-hour tour, Pioneer blasted off on March 2, 1972, for what was supposed to be a 21-month mission. It ended up establishing a lot of firsts in the history of space exploration.

It became the first humanly made object to get through the asteroid belt between Mars and Jupiter (many skeptics thought it wouldn't survive). It took the first close-up photos of Jupiter. It has made valuable measurements of the edges of the heliosphere (the solar wind). And it became the very first us-built thing to leave the solar system. For many years, Pioneer was the most distant object we ever threw out there, until Voyager 1 (flying in the opposite direction) outpaced it in 1998, a year after Pioneer's mission officially ended. Now Pioneer's little radioisotope-powered battery, which still was followed for future interstellar adventures, is too weak to send a signal.

NASA and all of us got far more than our money's worth from Pioneer, and we still can from space exploration, even with its deadly risks.

Out there in space, there's next to nothing to slow Pioneer down, so it will keep sliding through space at about 27,380 m.p.h. toward Aldebaran, a giant red star that's the eye of the constellation Taurus, the bull, about 68 light years away. At that rate, Pioneer should get there in two million years. For Pioneer and for us (if we're still around), that'll be the ultimate bull's-eye."



The Crab Nebula in the constellation Taurus is the remnant of a supernovae explosion that was seen on Earth in 1054 AD. It is 6000 light years from Earth. At the center of the bright
nebula is a rapidly spinning neutron star, or pulsar, that emits pulses of radiation 30 times a second. Photo courtesy Chandra X-Ray Observatory and NASA/CXC/SAO.

Website:

http://spaceprojects.arc.nasa.gov/Space_Projects/pioneer/PNhome.html

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