

NASA probe set for first-ever Pluto flyby

After nine years and a journey of 5 billion kilometres, NASA's New Horizons probe is to become the first spacecraft to visit the icy dwarf planet Pluto. The piano-sized craft will also study the Kuiper Belt, the mysterious zone believed to contain materials formed at the birth of the solar system

Jul 14, 2015:
New Horizons' closest approach to Pluto – 12,500km at 11:49GMT

Distances not to scale

Jun 2008: Probe crosses orbit of Saturn

Mar 2011: Crosses orbit of Uranus

Aug 2014: Craft crosses orbit of Neptune

Kuiper Belt: Believed to contain 100,000 objects bigger than 100km across

Feb 2007: Jupiter flyby. "Slingshot" effect boosts probe's speed to 65,740km/h

Jan-2006: New Horizons launched from Earth

Mars
Venus
Mercury

Dish antenna: Radio signals will take four hours to reach probe

Radioisotope Thermoelectric Generator: Provides electrical power from decay of 11kg of plutonium-238

PEPSSI: Measures plasma (ions) escaping from atmosphere

SWAP: Measures solar wind

ALICE: Ultraviolet imaging spectrometer analyzes atmosphere

RALPH: Visible and infrared maps of surface composition and temperature

Star-tracker

LORRI: Long range telescopic camera provides geological data

Pluto's orbit is inclined 17.1 degrees to orbit of Earth

Frozen nitrogen
Liquid water ocean

Rock

PLUTO
2,300km diameter

Europe to same scale as Pluto and its moons

PLUTO'S FIVE MOONS

Charon
1,200km diameter

Hydra and Nix
Discovered in 2005.
61km, 46km diameter

Kerberos and Styx
Discovered in 2011 and 2012.
13-34km, 10-25km diameter