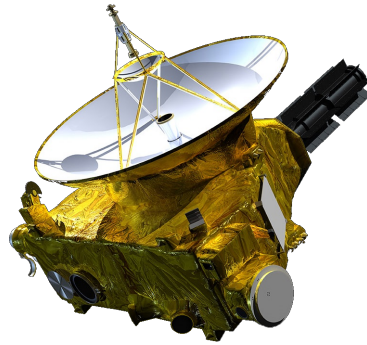
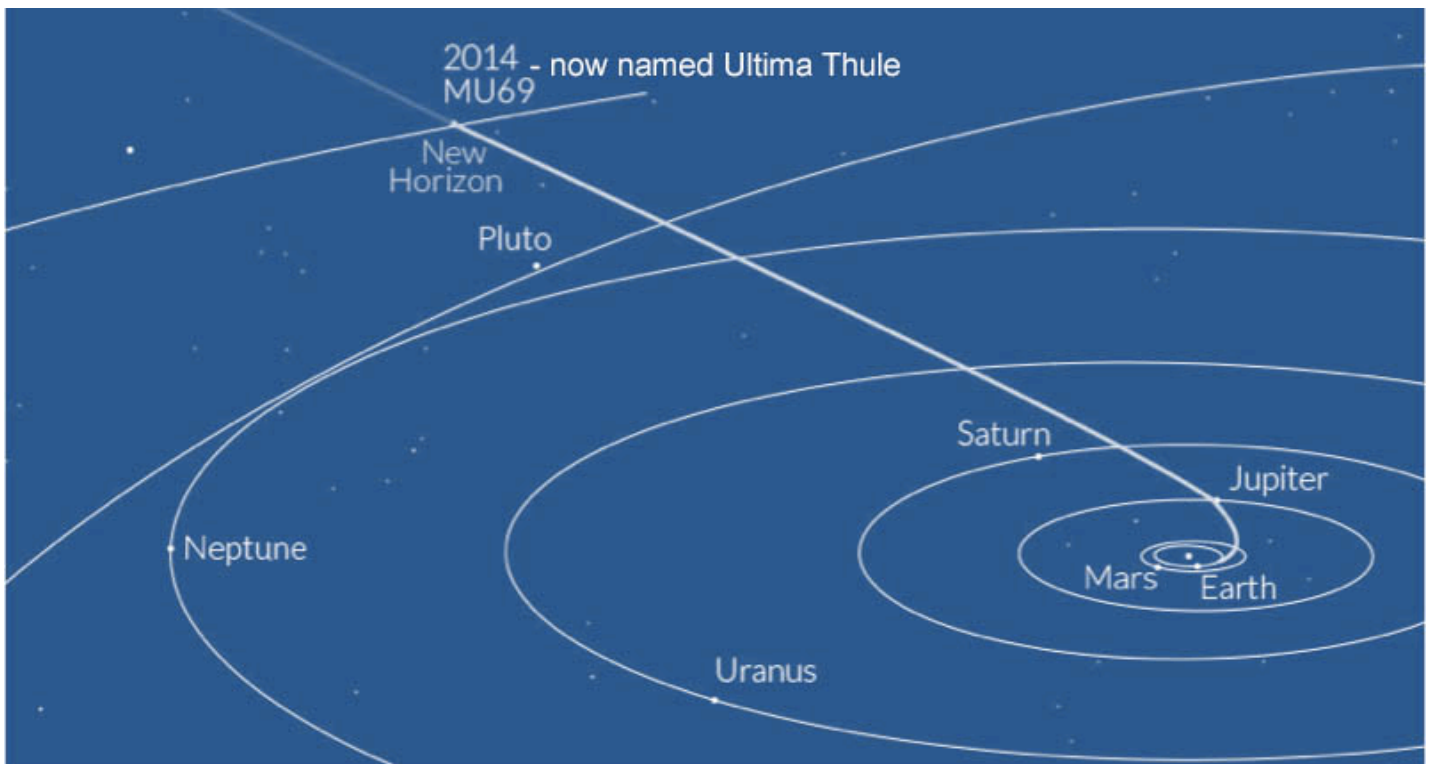


New Horizons spacecraft fly-by - Far out!



New Horizon Spacecraft

On New Year's morning, 2019, at 12:33am, the spacecraft New Horizon passed by an asteroid a billion miles closer to the edge of our solar system than Pluto.



This was the farthest celestial body that scientists will have ever viewed up close.

Strangely, the confirmation of the successful fly-by didn't arrive at the Laurel, MD Johns Hopkins Applied Physics Laboratory (mission control center) until 10:31 am (ET) on Tuesday morning.

1. How long did it take for the fly-by confirmation to reach the APL (Applied Physics Laboratory)?

We know that the space rock, 2014 MU69, now nicknamed, Ultima Thule (meaning "a place beyond the known world") is about 4 billion miles (6.4 billion km) from Earth.

2. Why do you think it took so long to receive that signal?

The signal from the New Horizons spacecraft was traveling at the speed of light. The speed of light is 299,792,458 meters per second (approximately 300,000 km/s (186,000 mi/s)).

3. Using the appropriate speed of light, calculate the time it should have taken for the New Horizons spacecraft confirmation data to arrive in Laurel, Maryland.

4. Is your answer consistent with the time that it took for the APL lab to receive the confirmation of the fly-by?

After much sleuth work we found that the spacecraft was out of contact during the actual fly-by, but it was programmed to phone home later Tuesday morning with an engineering status report.

Sources: https://en.wikipedia.org/wiki/New_Horizons
https://www.washingtonpost.com/science/2018/12/31/most-distant-space-encounter-history-is-happening-now/?utm_term=.4fe53df00906
<https://www.space.com/32049-kbo-2014-mu69.html>
<https://www.cbsnews.com/news/new-horizons-nasa-space-probe-closes-in-for-historic-new-years-day-flyby-ultima-thule/>

Brought to you by YummyMath.com