

Offered Title: Oumuamua: Rock or Spacecraft?

A scout or messenger, that what we called it. Oumuamua is Hawaiian for scout or messenger and it was named that because it came into our solar system from an unexpected direction. It came from deep space outside our solar system, so it was a "scout/messenger" from deep space. It came in and was nearly missed as it receded toward the outer planets. Now, it seems, there is some speculation about its origin and whether it has a purpose, was sent here.

Looking at the scenario, it came in from an angle totally unexpected, and certainly not from within our solar system. It came in fast and receded faster, as if under power. We did not get a good look at it. So, what is the concern?

The acceleration of Oumuamua is odd. Comets are known to do this as they spew gas and debris but Oumuamua isn't doing this. The only thing we have with which to compare is called a light sail, a lightweight foil sail that can be accelerated by sunlight pressure. We have tested this concept and it works.

Avi Loeb, chair of Harvard's astronomy department has proposed the possibility that Oumuamua might not simply be an asteroid. Though it is tumbling it is also accelerating. Loeb conjectures that an extraterrestrial civilization sending a probe and looking for other life, possibly intelligent life, would try to hide the probe's identity. Make it appear like a normal galactic object. The path of Oumuamua suggests it comes from Vega and its trajectory is different than expected if it were controlled by the Sun's gravity. If it were a comet, we would detect material outgassing from it and subsequent changes in rotation/tumbling. This has not been observed. Its rotation/tumbling has been stable as it slowly accelerates out of our solar system.

Is Oumuamua a probe or just an asteroid with unexplained acceleration? Another explanation has been proposed. Roman Rafikov, an astrophysicist at the University of Cambridge has proposed a different scenario. He has suggested Oumuamua is the result of normal stellar evolution, like what formed the Ring Nebula (M57) in the constellation Lyra, home of Vega. This will happen to our Sun in about 5 billion years. As the star goes through gyrations at its end of stellar life, its closer planets can be disrupted and torn apart by gravitational and pressure fluctuations. Rafikov suggests that Oumuamua is a tiny piece of planetary remains, blasted out of its solar system and shooting through ours some millions of years later.

Well, I am a believer in simple explanations and I admit this is a challenge. Using Occam's Razor philosophy, I lean toward Oumuamua being an asteroid from another solar system vs a probe. What do you think?

What's in the Sky?

January 2 and 3; Pre-dawn; southeast: Jupiter, Antares, Venus, Mercury and a crescent Moon are a pretty sight.

January 4; 1am and later; northeast: The Quadrantid meteor shower peaks.