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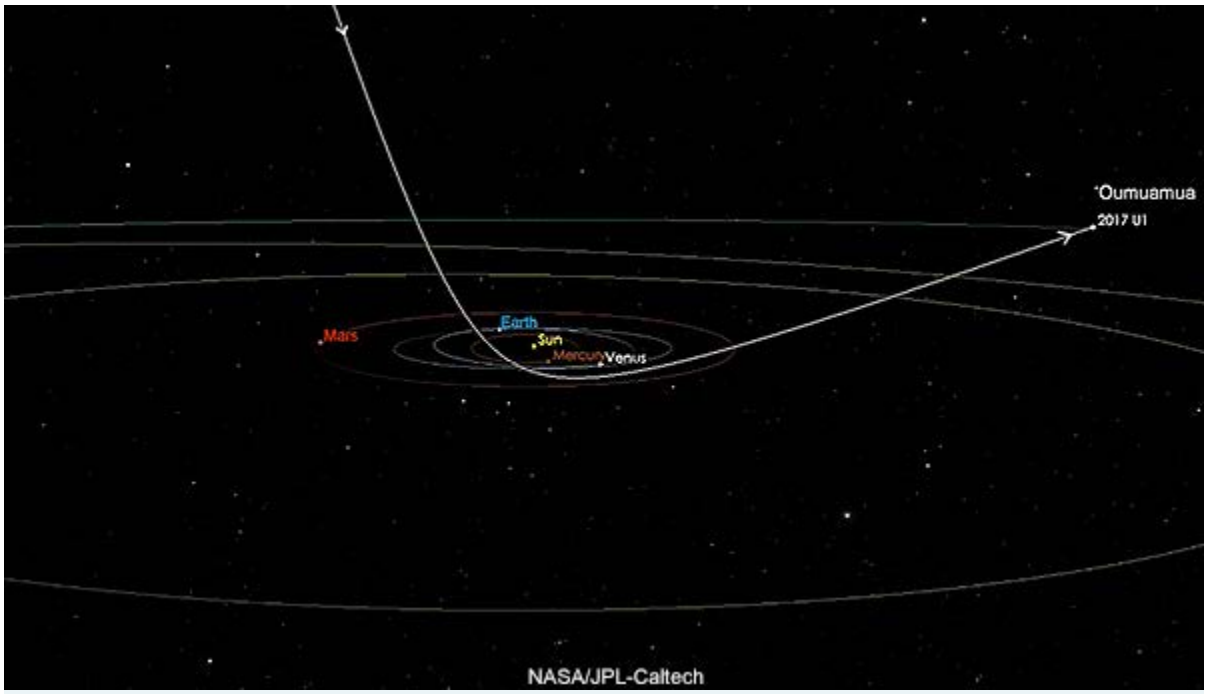
CosmoSparks

Quick Views of Big Advances

Observing the First Interstellar Object in our Solar System

Celestial body ‘Oumuamua was discovered with the Panoramic Survey Telescope and Rapid Response System (Pan-STARRS 1) in October, 2017. The University of Hawai‘i's Pan-STARRS 1 telescope operates from Haleakala, Maui and is part of NASA's Near-Earth Object Observations Program. The initial observations found that the object approached within 0.25 AU of the Sun, it had no detectable cometary activity and was characterized as an asteroid. ‘Oumuamua's standout features were its extrasolar trajectory and an extremely oblong shape making it the first interstellar object ever observed in our Solar System. Subsequent research of the trajectory showed an unexpected change in the object's motion that could not be explained by gravitational forces of the Sun and planets. An international team of scientists from Germany, Italy, Israel, the Netherlands, and the US has now reported that comet-like outgassing is a viable explanation for the non-gravitational acceleration in the motion of ‘Oumuamua.



Click to watch an animation from NASA/JPL-Caltech showing the path of 1I/2017 U1, 'Oumuamua through our Solar System.

The Hawaiian name ‘Oumuamua (pronounced oh MOO-uh MOO-uh) means scout or messenger from the distant past reaching out to us. Though its path through our Solar System was brief, researchers continue to analyze the data collected during the international observing campaign of ‘Oumuamua to learn more about the universe and, in particular, planetary systems.

See Reference:

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See also:

· Meech, K. J., Weryk, R., Micheli, M., Kleyna, J. T., Hainaut, O. R., Jedicke, R., Wainscoat, R. J., Chambers, K. C., Keane, J. V., Petric, A., Denneau, L., Magnier, E., Berger, T., Huber, M. E., Flewelling, H., Waters, C., Schunova-Lilly, E. and Chastel, S. (2017) A Brief Visit from a Red and Extremely Elongated Interstellar Asteroid, *Nature,* v. 552, p. 378-381, doi: 10.1038/nature25020. [***abstract***]

· Meech, K. J. (2018) The Story of 'Oumuamua, The First Visitor from Another Star System, ***TED2018 conference video***.

· University of Hawai'i Institute for Astronomy News Releases:
26 October 2017: ***Small Asteroid or Comet 'Visits' from Beyond the Solar System***
20 November 2017: ***Earth's First Known Interstellar Visitor Unmasked***
27 June 2018: ***Is the Interstellar Asteroid Really a Comet?***

· ***10 Things: Mysterious 'Oumuamua***, Feature Story at NASA Solar System Exploration.

· ***Pan-STARRS 1 Data Archive***

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