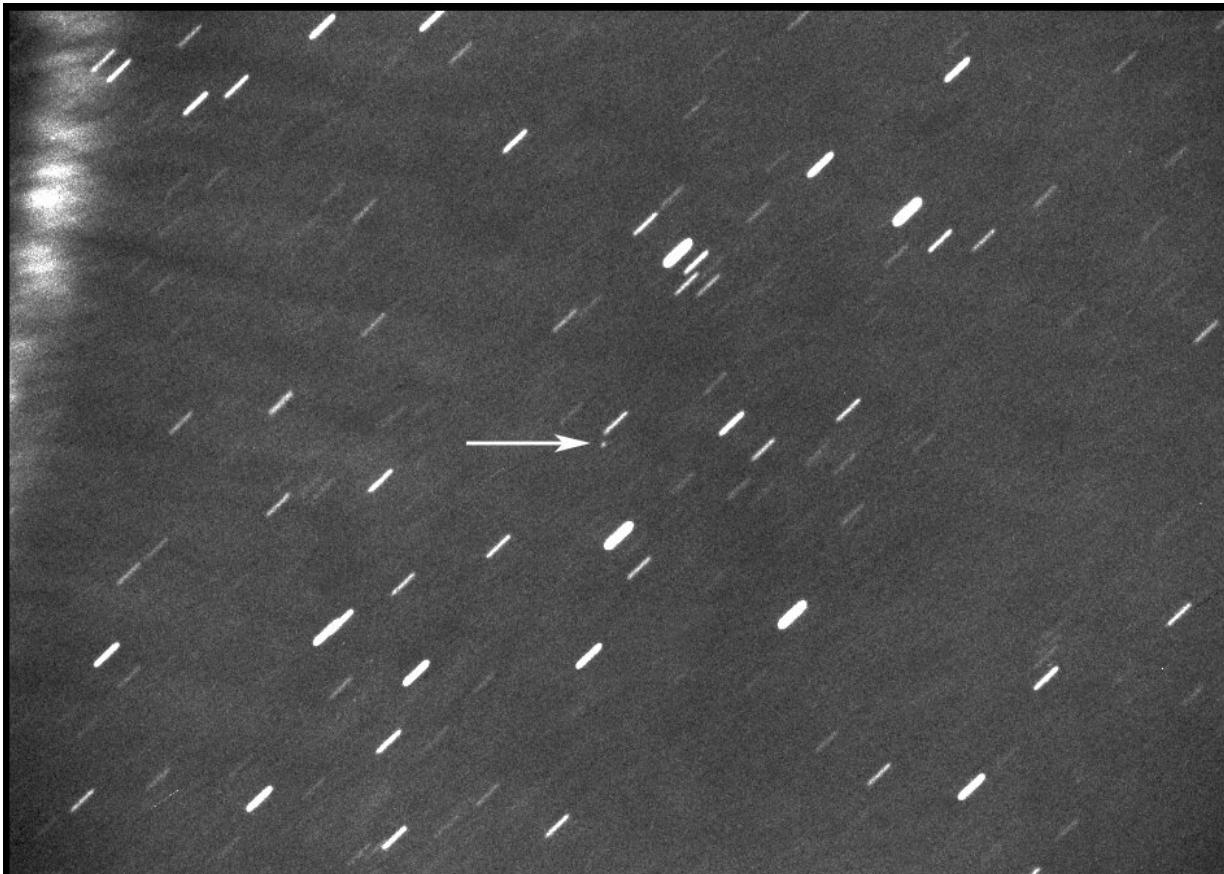


Virtual Telescope Project confirms 2020 AV2— the first asteroid found to move entirely inside the orbit of Venus

January 13 2020, by Bob Yirka



Asteroid 2020 AV2. 8 Jan. 2020, 17:03 UTC.

This image comes from the average of 14, 60-seconds exposures, remotely taken with the "Elena" (PlaneWave 17"+ Software Bisque Paramount ME + SBIG STL-6303E) robotic unit part of the Virtual Telescope Project. The asteroid is indicated with a white arrow. 2020 AV2 is the first object to be discovered with an orbit entirely inside that of Venus. Image scale: 1.2"/pixel.

Image by Gianluca Masi, Ceccano (FR), Italy - MPC code: 470 - The Virtual Telescope Project
- <https://www.virtualtelescope.eu>



Asteroid 2020 AV2: 8 Jan. 2020. Credit: Virtual Telescope Project

Gianluca Masi, an astrophysicist working on the Virtual Telescope Project, which he founded, has announced the confirmation of 2020 AV2—the first asteroid orbiting entirely within the orbit of Venus. Masi describes on the Virtual Telescope Project web page the discovery by a team at the Zwicky Transient Facility and his confirmation of its orbit.

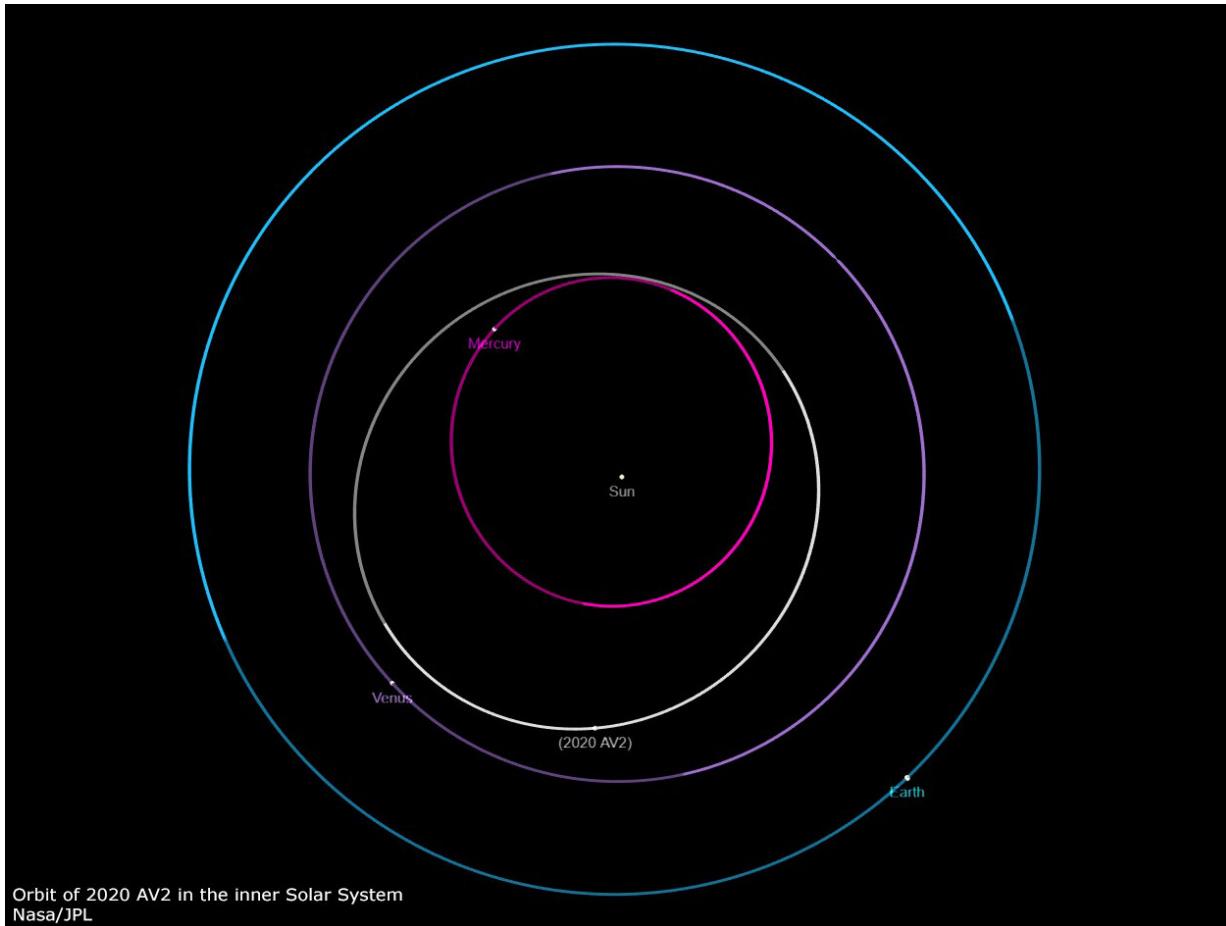
Masi reports that the asteroid was first spotted by a team at the Palomar Transient Factory on January 4 of this year. A team at the Minor Planet Center, which had temporarily named it ZTF09k5, publicly posted the finding.

Intrigued by the finding, Masi set himself the task of confirming the find because its preliminary orbit indicated it never moved out of Venus' path. After waiting for [clear skies](#), Masi scheduled time on a telescope in Ceccano, Italy—a member of the Virtual Telescope Project. He was able to program a remote-controlled unit on the telescope called "Elena," which allowed him to use the [telescope](#) over the Internet for 30 minutes.

Masi notes that the process of photographing the asteroid was difficult because it was low in the sky, and the sky was not very dark due to—and there was a full moon. Making things even more difficult was its path down towards the horizon.

Despite the difficulty, Masi reports that he was able to capture multiple images of the asteroid, which he combined to account for the object's motion. Once he had a finished photograph in hand, he sent it to the Minor Planet Center. Several hours later, his confirmation was posted on the Minor Planet Center circular with its new name: 2020 AV2. At that point, he was free to post his findings, including the combined photograph, on the Virtual Telescope Project web page. Masi and the team at Minor Planet Center also confirmed that 2020 AV2's orbit was

completely inside Venus' [orbit](#)—the only known such asteroid. He notes that it also has the smallest known aphelion distance in the [solar system](#) other than Mercury.



The orbit of 2020 AV2. Credit: Virtual Telescope Project

More information: www.virtualtelescope.eu/2020/01/a-mage-08-jan-2020/

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