Saturn spacecraft not affected by hypothetical Planet 9

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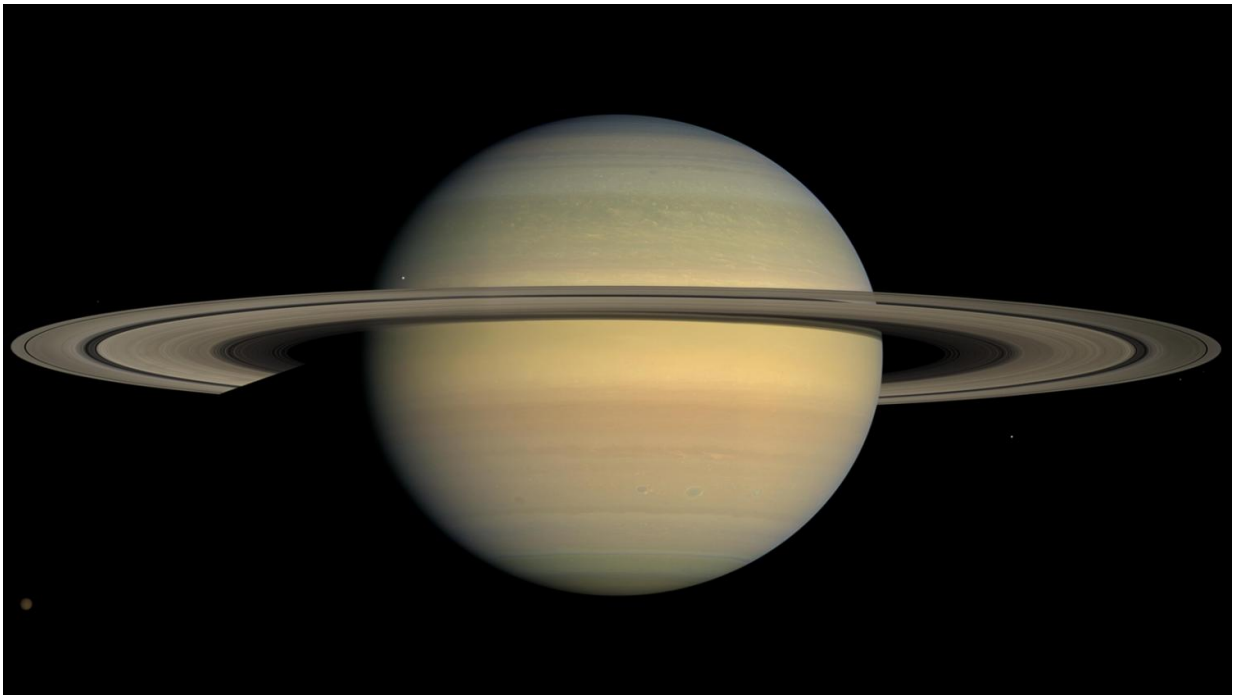

Saturn as seen by NASA's Cassini spacecraft in 2008. Long-term tracking of the spacecraft's position has revealed no unexplained perturbations in Cassini's orbit. Credit: NASA/JPL/Space Science Institute

Contrary to recent reports, NASA's Cassini spacecraft is not experiencing unexplained deviations in its orbit around Saturn, according to mission managers and orbit determination experts at NASA's Jet Propulsion Laboratory in Pasadena, California.

Several recent news stories have reported that a mysterious anomaly in Cassini's orbit could potentially be explained by the gravitational tug of a theorized massive new planet in our solar system, lurking far beyond the orbit of Neptune. While the proposed planet's existence may eventually be confirmed by other means, mission navigators have observed no unexplained deviations in the spacecraft's orbit since its arrival there in 2004.

"An undiscovered planet outside the orbit of Neptune, 10 times the mass of Earth, would affect the orbit of Saturn, not Cassini," said William Folkner, a planetary scientist at JPL. Folkner develops planetary orbit information used for NASA's high-precision spacecraft navigation. "This could produce a signature in the measurements of Cassini while in orbit about Saturn if the planet was close enough to the sun. But we do not see any unexplained signature above the level of the measurement noise in Cassini data taken from 2004 to 2016."

A recent paper predicts that, if data tracking Cassini's position were available out to the year 2020, they might be used to reveal a "most probable" location for the new planet in its long orbit around the sun. However, Cassini's mission is planned to end in late 2017, when the spacecraft—too low on fuel to continue on a longer mission—will plunge into Saturn's atmosphere.

"Although we'd love it if Cassini could help detect a new planet in the solar system, we do not see any perturbations in our orbit that we cannot explain with our current models," said Earl Maize, Cassini project manager at JPL.

The Cassini-Huygens mission is a cooperative project of NASA, ESA and the Italian Space Agency. JPL, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate in Washington.

Provided by NASA