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Saturn's Rotation Measurements Are Wrong

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NASA and European Space Agency scientists have found Saturn's moon Enceladus affects Saturn's magnetic field, making it rotate slower than the planet.

That phenomenon, said astronomers, makes it nearly impossible to measure the length of the Saturn day.

No one could have predicted the little moon Enceladus would have such an influence on the radio technique that has been used for years to determine the length of the Saturn day, said Don Gurnett of the University of Iowa, principal investigator of the radio-plasma wave science experiment onboard the National Aeronautics and Space Administration's Cassini spacecraft.

A new study of Cassini data determined previous calculations of the length of the Saturn day are incorrect. Cassini has been measuring not the length of the Saturn day, but rather the rotational period of the planet's plasma disc.

At present, there is no technique that can accurately measure Saturn's rotation since the gaseous planet has no surface or fixed point to clock its rotation rate, the ESA said.

The Cassini-Huygens mission is a cooperative project of NASA, the ESA and the Italian Space Agency.

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