A possible explanation for one of Saturn's moons having an underground ocean

3 April 2019, by Bob Yirka

Marc Neveu and Alyssa Rhoden describe the computer model they built to replicate conditions near Saturn over time and what they showed. The researchers designed their model to mimic the behavior of Saturn and its moons over the course of the past 4.5 billion years. The model showed that Enceladus developed a subsurface ocean because of its unique gravitational interactions with the other moons—they forced Enceladus into an oblong orbit. They also found that Saturn's pull on the moon continually distorted it, and that the flexing heated the moon's interior, allowing the water underground to remain liquid. None of the other four moons had conditions similar enough to allow water to remain liquid beneath their surfaces.


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