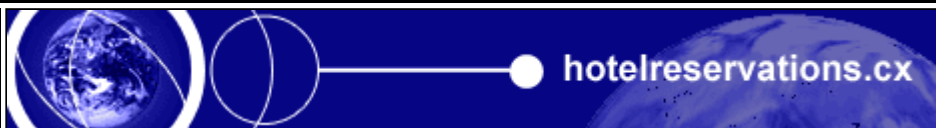


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Electricity on Titan may spark life

Albuquerque Express
Wednesday 29th October, 2008
(ANI)

Washington, Oct 29 : A new study has reported faint signs of a natural electric field in the thick cloud cover of Saturn's largest moon Titan that are similar to the energy radiated by lightning on Earth, which suggests that it could spark life.

Lightning is thought to have sparked the chemical reactions that led to the origin of life on our planet.

"As of now, lightning activity has not been observed in Titan's atmosphere," said lead author Juan Antonio Morente of the University of Granada in Spain.

But, he said, the signals that have been detected "are an irrefutable proof for the existence of electric activity."

According to a report in National Geographic News, Morente's team studied data returned from the European Space Agency's Huygens probe, which broke away from NASA's Cassini spacecraft in 2005 to become the first probe to go below Titan's clouds.

As soon as the probe entered the moon's atmosphere, a strong wind tilted the device about 30 degrees.

This accidental motion enabled Huygens to detect the Earthlike electrical resonances that it otherwise would have missed.

Jeffrey Bada, of the Scripps Institution of Oceanography, believes the process that allowed lightning to spark life on Earth is universal and could happen in many environments—including on Titan.

Confirmation earlier this year of Titan's hydrocarbon lakes makes the Saturnian moon the first place other than Earth where open bodies of liquid have been found.

Hydrocarbons are organic molecules, and the fact that they exist in large quantities on Titan suggests that life could take root there under the right conditions.

"If you had lightning taking place in the atmosphere of Titan, you could make what we call precursor molecules," said Bada. "To go any further than that, you need liquid water," he added.

Titan's water is currently frozen into chunks as hard as granite. If those ice "rocks" were to melt, however, the environment could become more hospitable to the building blocks of life.

With liquid water, the planet could host the formation of amino acids and then full proteins, which drive all biochemistry and set the stage for more complex molecules.

"I look at Titan as a big, frozen, prebiotic casserole," Bada said, referring to the state before the emergence of life.

"The idea that life could be widespread in the universe, I think, is very credible," he added.



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