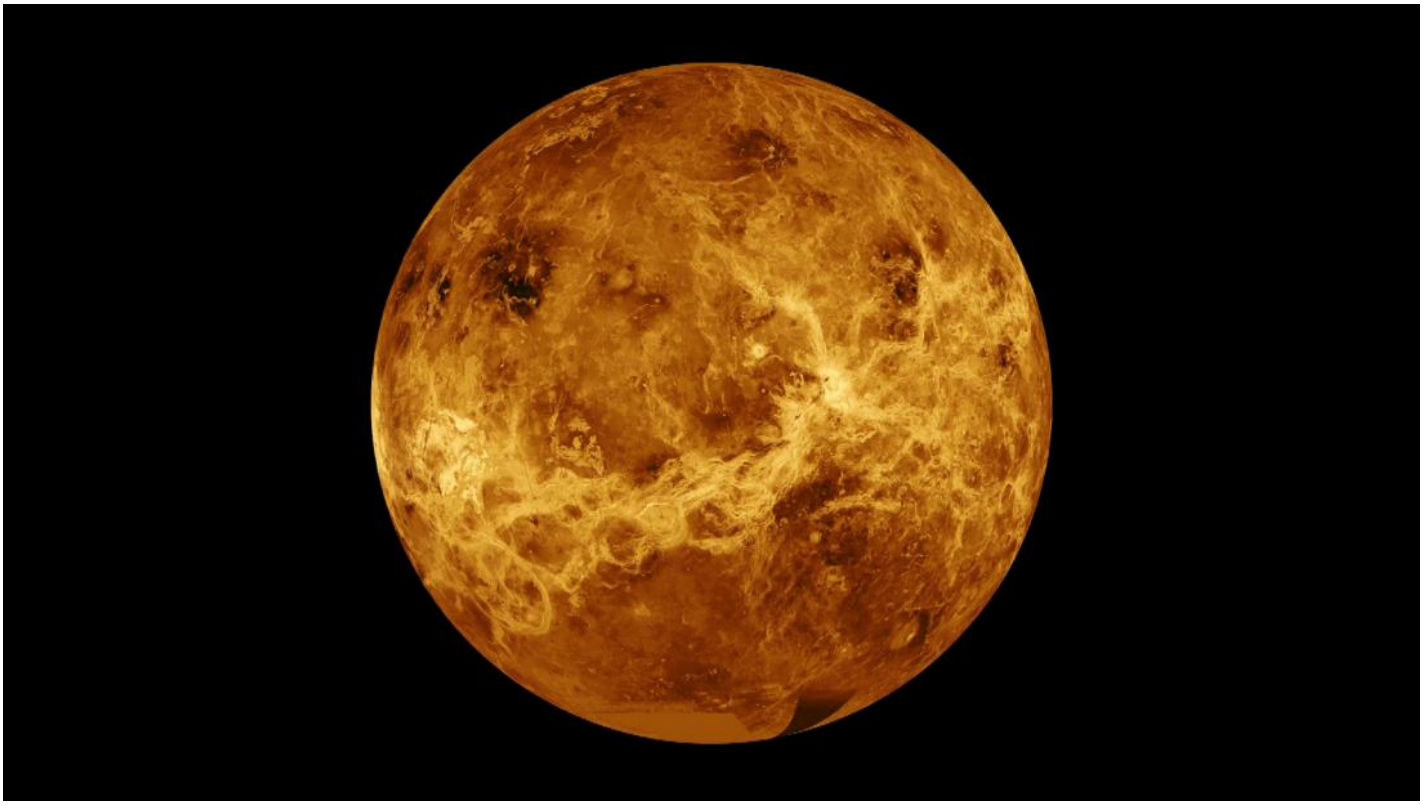
NASA’s newest mission will study the origins of the universe

By Ashley Strickland, CNN
Updated 5:25 PM EST, Wed February 13, 2019



Two new missions to Venus -- DAVINCI+ and VERITAS -- have been selected by NASA. These missions will shed light on how Venus became the inhospitable world it is today, despite the fact that it shares many characteristics with Earth.

(CNN) — NASA has announced a two-year space mission to study the beginnings and evolution of the universe and determine how common the ingredients for life are within the planetary systems in our galaxy, the Milky Way.

The Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer, nicknamed SPHEREx, is expected to launch in 2023 and has been funded at $242 million – not including launch costs.

"This amazing mission will be a treasure trove of unique data for astronomers," said Thomas Zurbuchen, associate administrator for NASA's Science Mission Directorate. "It will deliver an unprecedented galactic map containing 'fingerprints' from the first moments in the universe's history. And we'll have new clues to one of the greatest mysteries in science: What made the universe expand so quickly less than a nanosecond after the big bang?"

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SPHEREx will use near-infrared light, as well as optical, to survey the sky every six months and collect data from more than 100 million stars in the Milky Way, as well as 300 million galaxies. These are galaxies in our cosmic neighborhood along with some that are so distant, it's taken 10 billion years for their light to reach our telescopes.

The technology used to create SPHEREx has been adapted from what is used on our satellites and Mars spacecraft, NASA said in a statement.

While surveying the Milky Way, SPHEREx will search for organic molecules and water in areas where stars are born, called stellar nurseries. These nurseries, as well as disks around stars that help form new planets, could contain the ingredients for life as we know it. Recently, surprising things such as salt have been found in these areas.

The mission's result should create a sky map using 96 varied color bands with more resolution than any previous sky maps. And like other NASA missions, SPHEREx can also help identify targets for upcoming missions such as the James Webb Space Telescope.