

SPACE EXPLORATION SYMPOSIUM (A3)
Solar System Exploration (5)

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JET: JOURNEY TO ENCELADUS AND TITAN MISSION CONCEPT OVERVIEW

Abstract

The Journey to Enceladus and Titan (JET) mission proposed to NASA's Discovery program follows up on exciting discoveries from Cassini-Huygens. JET would have a small payload on a simple spacecraft. A 2018 launch would have JET arriving at Saturn in 2025 after a long cruise where the spacecraft would be hibernating for most of the time. Later potential launch dates have similar flight times to Saturn. The only new technology would be the NASA/Department of Energy-developed Advanced Stirling Radioisotope Generator (ASRG) that can provide power and heat critical to a deep space mission at Saturn distance from the Sun. Approximately one year in Saturn orbit would involve many targeted Enceladus and Titan flybys. The mission would be designed to safely dispose of the spacecraft on Dione after one year in orbit. Or, an extended mission could further test the ASRG and return additional science.