

SPACE EXPLORATION SYMPOSIUM (A3)
Solar System Exploration (6)

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CASSINI'S SOLSTICE MISSION

Abstract

With the recent approval of NASA's flagship Cassini mission for seven more years of continued operations, dozens more Titan, Enceladus and other icy moon flybys await, as well as many occultations and multiple close passages to Saturn. Seasonal change is the principal scientific theme as Cassini extends its survey of the target-rich system over one full half-season, to northern winter solstice in 2017. This paper will describe the new seven-year mission extension along with a detailed overview of the design process, propellant management and operations strategies facing Cassini with smaller, more streamlined spacecraft, sequencing and science teams. Also to be described in detail is Cassini's thrilling never-before-envisioned end of mission where it will fly between the rings and the planet for 20 polar orbits at about the same time as Juno's similar orbits of Jupiter.

David Seal is Cassini's chief mission planner. This paper is a companion paper to Mr. Robert Mitchell's Cassini status update, likely targeted for session A3.6, as was done successfully in Glasgow in 2008.