

MISSION ACCOMPLISHED

Spectron shares in success as Huygens probe makes triumphant landing on Titan!



On Friday, January 14th, 2005 the Huygens probe touched down on Titan, a moon of Saturn, ending its impressive seven-year journey. The probe entered Titan's upper atmosphere at about 5:15 a.m. EST. During its two and one-half hour descent to the surface of the moon, it made

various scientific measurements, and continued transmitting data for more than 90 minutes after reaching the surface. The data was sent to NASA's Cassini spacecraft, and was recorded and relayed through the Deep Space Network.

The clarity of the initial images being returned from the probe leaves one with a sense of awe.

Cassini-Huygens, a joint endeavor of ESA, NASA and the Italian space agency, Agenzia Spaziale Italiana (ASI), was sent to the ringed planet to study the Saturnian system in detail over a four-year period.



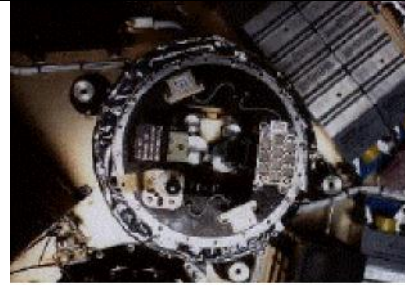
Titan surface

Cassini-Huygens is a sophisticated spacecraft consisting of two major parts: the Cassini orbiter and the Huygens probe (lander). The Huygens probe is equipped with six instrument packages, which contain various sensors to accomplish the measurement tasks. One of these packages is called the Surface-Science Package (SSP). The SSP contains a number of sensors designed to determine the physical properties of Titan's surface at the point of impact, whether the surface is solid or liquid.

One of the sensors employed is a *Spectron* L-211 U Series Electrolytic Tilt Sensor. Using two of these sensors (*dual axis operation*) pre-installed into a model #556A housing, their job was to measure any pendulum motion of the probe during descent, indicate the probe attitude after landing, and to show any motion due to waves (if any) on the surface.

The sensors selected for this mission were chosen for their quality, performance and high level of reliability. *Spectron* is particularly proud of its participation, having had a relatively small hand in furthering our understanding of the universe.

SSP: Surface Science Package



The Surface Science Package consists of nine independent sensor subsystems with the primary aim of characterising Titan's surface at the end of Huygens' descent through Titan's atmosphere. In addition, many useful atmospheric measurements will be performed during the descent phase. Seven sensors are mounted inside or on the lower rim of a cavity in the Probe's fore-dome, and are thus exposed to Titan atmosphere or surface material.

Objectives

- Determine the physical nature and condition of Titan's surface at the landing site
- Determine the abundances of the major constituents, placing bounds on atmospheric and ocean evolution
- Measure the thermal, optical, acoustic and electrical properties and density of any ocean, providing data to validate physical and chemical models
- Determine wave properties and ocean/atmosphere interaction
- Provide ground truth for interpreting the large-scale Orbiter Radar Mapper and other experimental data