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Titan Atmosphere Physical Characteristics obtained by the Huygens Atmospheric Structure Instrument (HASI) Measurements

MARCELLO FULCHIGNONI[1] and THE HASI TEAM
[1]*Univerité Denis Diderot - Paris 7 / LESIA Observatoire de Paris*

The Huygens Atmospheric Structure Instrument (HASI) measured the main physical characteristics of the Titan atmosphere in all the phases of the Huygens probe mission at Titan: entry, descent and impact.
The accelerometers (ACC sensors) provided the data from the very beginning of the entry phase (1200 km) and down to the impact phase at the surface of Titan. Temperature and pressure profile were obtained by direct measurements of T (TEM sensors) and P (PPI package) during the descent and the impact, providing us with hints on the physical structure of Titan's atmosphere.
The electrical properties, as the permittivity at 45 Hz and the conductivity, of the atmosphere have been measured during the whole descent phase and at the surface of Titan by the Permittivity and Wave Analys (PWA) sensors.
The radar altimeter data collected in the range of elevation 30-0 km have been processed by the FFT device of the HASI data processing unit, providing us with both information on the elevation of the probe in the last part of the descent and on some physical properties of the Titan surface. A summary of the obtained results will be presented and discussed.