



## **Conductivity measurements in Titan's atmosphere by the HASI-PWA MI probe on board of Huygens**

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During the successful descent of the Huygens probe in Titan's atmosphere the Huygens Atmospheric Structure Instrument (HASI) recorded data on the atmospheric conductivity via the Mutual Impedance (MI) Probe, which is part of the HASI Permittivity, Wave and Altimetry experiment. The measurement principle and the application for the measurement of atmospheric conductivity are introduced. The processing and calibration of the MI Probe data is presented. Measurement data obtained during the atmospheric descent are shown, and the impact of important effects such as probe temperature, probe charging and descent velocity are described. The impact of the variation of probe velocity and charge carrier mobility on the MI measurements is discussed. A preliminary altitude profile of the atmospheric conductivity is presented, and the possibilities and requirements for improving the accuracy of the results are discussed.