



Calibration of the Huygens HASI-PWA AC field measurement data

R. Trautner (1), F. Simoes (2), I. Jernej (3), M. Hamelin (2), R. Grard (1), K. Schwingenschuh (3), P. Falkner (4), G. Colombatti (5), P. Lion-Stoppato (5), V. J. G. Brown (6)

(1) Research and Scientific Support Department (RSSD), ESA/ESTEC, Post Bus 299, NL-2000 AG, Noordwijk, The Netherlands, (2) Centre d'étude des Environnements Terrestre et Planétaires (CETP), CNRS, 4 Avenue de Neptune, F-94107 Saint Maur Cedex, France, (3) Institut für Weltraumforschung (IWF), Austrian Academy of Sciences, Schmiedlstraße 6, A-8042 Graz, Austria, (4) Science Payload and Advanced Concepts Office, ESA/ESTEC, Post Bus 299, 2000AG, Noordwijk, The Netherlands, (5) C.I.S.A.S. Centre of Studies and Activities for Space 'G. Colombo', University of Padova, Italy, (6) Instituto de Astrofísica de Andalucía (IAA), CSIC, P.O. Box 3004, E-18080 Granada, Spain. Email: Roland.Trautner@esa.int, Fax: +31 71 565 4697

The Permittivity and Wave analyzer is part of the Huygens Atmospheric Structure Instrument (HASI) on board the Huygens probe [1]. It is designed to measure low frequency electric fields in the atmosphere of Titan by means of electrodes mounted on two booms. The calibration and interpretation of the data needs to take into account the probe attitude, electric field disturbances caused by the presence of the conductive probe body, and coupling phenomena between probe sensors and the surrounding medium. The general architecture of the measurement system is introduced. The impact of the presence and attitude of the probe body on AC measurements is evaluated, and the consequences for the processing of the Huygens HASI-PWA AC data are presented.

[1] M. Fulchignoni et al., The Characterization of Titan's atmospheric physical properties by the Huygens Atmospheric Structure Instrument (HASI), *Space Science Reviews* 104: 395-431, 2002.