Geophysical Research Abstracts, Vol. 7, 07890, 2005 SRef-ID: 1607-7962/gra/EGU05-A-07890 © European Geosciences Union 2005



First results of the Huygens Radar Altimeter performance tests on the PEASMA stratospheric balloon

R. Trautner (1), H. Svedhem (1), J.-P. Lebreton (1), A. Piot (1), D. Plettemeier (2), M. Hamelin (3), S. Maloreau (3)

(1) Research and Scientific Support Department (RSSD), ESA/ESTEC, Postbus 299, 2000AG, Noordwijk, The Netherlands, (2) Technical University of Dresden, Elektrotechnisches Institut, Helmholtzstraße 9, D-01062 Dresden, Germany, (3) Centre d'etude des Environments Terrestre et Planetaires (CETP), CNRS, 4 Avenue de Neptune, F-94107 Saint Maur Cedex, France. Email: Roland.Trautner@esa.int, Fax: +31 71 565 4697

The Huygens probe carries two radar altimeters that determine the probe altitude in order to allow an optimisation of the scientific payload activities. Furthermore, the radar return signals are analysed by the Permittivity, Wave and Altimetry Analyzer (PWA) which is part of the Huygens Atmospheric Structure Instrument [1]. The flight spare models of the Huygens Radar Altimeter were tested on a stratospheric balloon launched from Teresina, Brazil in December 2004. The radar altimeter and the data recording systems are introduced. The timeline of events during the flight is presented. First results on the performance of the Huygens Radar Altimeters are shown, and the consequences for the processing of engineering and science data from the Huygens radar data returned from Titan 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.