

Recent results with Cassini-Huygens DISR

ATHENA COUSTENIS¹, MARTIN G. TOMASKO², LYN DOOSE², MICHAEL BUSHROE², BASHAR RIZK², LARRY SODERBLOM³, PETER SMITH², BRUNO BÉZARD¹, MICHEL COMBES¹, EMMANUEL LELLOUCH¹, ALBERTO NEGRAO¹, CATHERINE DE BERGH¹, BERNARD SCHMITT⁴, SYLVAIN DOUTÉ⁴ and THE DISR SCIENCE TEAM

> ¹LESIA, Paris-Meudon Observatory, France ²University of Arizona, Tucson, Arizona, 85721, USA ³U.S. Geological Survey, Flagstaff, Arizona 86001, USA ⁴Laboratoire de Plnaétologie, Grenoble, France

We will present our current understanding of physical processes occurring in Titan's lower atmosphere and the surface based on data recorded by the Descent Imager/Spectral Radiometer (DISR) aboard the Cassini-Huygens probe. This probe landed successfully on Titan's surface on January 14 2005. During the descent in Titan's atmosphere, DISR acquired a large number of data with the 3 cameras, 4 spectrometers and 2 photometers on board. The numerous spectra acquired cover the visible and near-infrared range up to 1.7 micron. From the methane bands and the methane "windows" in this range, information can be gathered on the abundance and vertical distribution of the aerosols, as well as on the surface reflectivity, which was viewed also with the help of a lamp lit at around 700 m of altitude. First indications show that the surface spectrum is compatible with the presence of water ice in the region where Huygens landed. The some 600 images recovered by the DISR cameras contain spatially-resolved information on Titan's surface. We will discuss the status of the data analysis.

References

- [1] [1] Tomasko et al. 1997. The descent Imager/Spectral Radiometer (DISR) aboard Huygens. ESA – SP 1177, 109.
- [2] [2] Tomasko et al. 2002. Space Sci. Rev. 104, 469.