



The Optical Depth Sensor (ODS) for optical thickness and high altitude clouds measurements on Mars landers

P. RANNOU (1), J.-P. POMMEREAU (2), and J.-L. MARIA (2)

(1) Université de Reims, GSMA, REIMS, France (pascal.rannou@univ-reims.fr), (2) CNRS-LATMOS, Université de Versailles St-Quentin, Verrières le Buisson, FRANCE

A small instrument, ODS (Optical Depth Sensor), made of 30 g optics and 40 g electronics has been developed for daily measurements of dust optical depth and detection of high altitude clouds in the Mars atmosphere from a station deployed at the surface of the planet. Initially designed for a NASA PASCAL mission later abandoned and the NETLANDER mission further stopped, ODS is now included in the payload of the atmospheric package ATM onboard the ground station HUMBOLDT of the EXOMARS mission as well as candidate for a METNET mission. For validating the instrument and the retrievals, a terrestrial version very similar to the Mars model, has been deployed in Burkina-Faso in a Saharan dust and high cirrus environment, next to an AERONET station for validating the measurements. After a brief description of the principle and the instrument, the capacity of ODS for measuring the dust optical thickness and detecting high altitude clouds will be illustrated from the results of long series of observations carried out in African.