



The TWINS Instrument On Board Mars Insight Mission

Tirso Velasco (1) and Jose A. Rodríguez-Manfredi (2)

(1) CRISA, and Airbus Defence and Space company, Spain, (2) Centro de Astrobiología (INTA-CSIC), Spain

The aim of this paper is to present the TWINS (Temperature and Wind sensors for INSight mission) instrument developed for the JPL Mars Insight Mission, to be launched by JPL in 2016. TWINS will provide high performance wind and air temperature measurements for the mission platform

TWINS is based on the heritage from REMS (Rover Environmental Monitoring Station) on board Curiosity Rover, which has been working successfully on Mars surface since August 2012. The REMS Booms Spare Hardware, comprising the Wind and Temperature Sensors, have been refurbished into TWINS Booms, with enhanced performances in terms of dynamic range and resolution.

Its short-term development time and low cost, have shown the capability of REMS design and technologies developed for Curiosity to be adapted to a new mission and new scientific requirements, with increased performances. It is also an example of international cooperation in Planetary Missions that has been carried out in the frame of science instruments within Curiosity and InSight Missions.