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Mars Environmental Monitoring Instrument for MSL rover

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Mars Science Laboratory rover payload is equipped with a suite of instruments for study Mars habitability, characterize its climate and geology and to prepare human exploration. The Rover Environmental Monitoring Station (REMS) is one of those instruments, developed by the Centro de Astrobiología (CSIC-INTA) in collaboration with EADS-Crisa, Universidad Politecnica de Cataluña, Finish Meteorological Institute, NASA Ames Research Center, University of Michigan, Universidad de Alcala de Henares and California Institute of Technology.

REMS has been designed for measuring ambient pressure, humidity, air and ground temperature, wind speed and direction and UV radiation. Their science objectives are focused on two aspects: habitability and Mars environment characterization. MSL is the first mission with an environmental station located on the rover and with a mission duration of one Martian year, which allow it the study all Mars seasons.

MSL rover design restrictions have imposed severe constraints to REMS. It has been divide in four different modules located at different rover locations, which have been selected to minimize as much as possible the rover influence on sensor measurements.

On the presentation will be outlined the scientific objectives of the instruments and the actual status of the instrument design.