The 'Radio Occultation and Heavy Precipitation' experiment aboard the PAZ satellite: status and ground campaign

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A Radio Occultation and Heavy Precipitation (ROHP) experiment will be conducted aboard the Spanish PAZ satellite. This LEO will orbit at 500 km altitude in a near-Polar orbit. The Radio Occulation (RO) payload includes an IGOR+ receiver and a dual polarization (H/V) limb oriented antenna to capture the signals of setting GNSS transmitters.

Agreements with NOAA and UCAR have been signed to permit the RO data to be telemetered to a NOAA station every orbit. This will enable near-real time dissemination of the level-1 'standard' RO products by UCAR. The raw polarimetric data will be stored and distributed for research at the ICE-CSIC/IEEC.

The research with polarimetric RO data has the goal of assessing the capabilities and limitations of this concept to infer profiles of heavy precipitation. Along this line, a pre-launch experimental campaign is being conducted from a 1700 meter high mountain, with clear views over the Mediterranean coast near Barcelona (Spain), where several locally intense rain events tend to happen every year. The set-up will be running for one year approximately to maximize the probability of capturing such events.

This talk will briefly summarize the ROHP project, reporting about the current status of the payload and mission, calendar, as well as the ground experiment set up and initial performance.