

Commissioning of CALLISTO spectrometers in Peru and observations of type III Solar Radio Bursts

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Two radio spectrometer stations belonging to the e-CALLISTO network were installed in Peru by the Astrophysics Directorate of CONIDA. Given their strategic location near the Equator, it was possible to observe the Sun evenly throughout the whole year and the detector was unique in its time-zone coverage. The receiver located nearby the capital city of Lima took data in the metric and decimetric bands looking for radio bursts. To assess the suitability of the sites and the performance of the antennas, we analysed the radio ambient background and measured their radiation pattern and beam-width. To show the capabilities of the facilities to study solar dynamics in these radio frequencies we have selected and analysed type III Solar Radio Bursts. We have characterised the most common radio bursts with the following mean values: a negative drift rate of -25.8 ± 3.7 MHz/s, a duration of 2.6 ± 0.3 s and 35 MHz bandwidth in the frequency range of 114 to 174 MHz. In addition, for some events, it was possible to calculate a global frequency drift, which on average was 0.4 ± 0.1 MHz/s.

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Collaboration

other Collaboration

Subcategory

Experimental Methods & Instrumentation

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