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# First results from the TRAGALDABAS Cosmic ray detector at the Univ. of Santiago de Compostela

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TRAGALDABAS is a high performance, high granularity, tracking detector of the Trasgo family. It is installed at the Univ. of Santiago de Compostela (42.876N, 8.560W), Spain. The detector is based on the RPC technology (Resistive Plate Chamber) offering a surface of 1.8m2 with granularity of 120 cells, multitracking capability, time resolution of ~0.4ns, an angular resolution close to 3º and an angular acceptance of 40º.
As a significant feature, the detector offers muon-electron separation capability with a rough electron calorimetry. This is attained by means of a software algorithm based on the analysis of the shape of the associated electromagnetic showers.

The detector is now taking data regularly at a rate of about 7 millions of events per day. After the detector calibration, efficiency evaluation and atmospheric corrections, preliminary results on cosmic ray rates with different multiplicities and the angular distribution dependence will be presented. We will show how a Trasgo detector is capable of measuring the properties of both isolated and bundles of particles, opening a new way of analyzing cosmic rays from the Earth surface.

## Keywords

Tracking detector, Resistive Plate Chamber, secondary cosmic rays, ground detector, muons, electrons

## Collaboration

## other Collaboration

## Subcategory

Experimental Methods & Instrumentation

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