

# Development of a portable SiPM scintillator tracker for cosmic rays

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A crucial aspect for outreach activities in cosmic-ray physics is the ability to bring the audience in contact with the experiments and let them visualize the underlying physics. A possible option is the use of portable detectors, which can be easily transported and operated in the various places where outreach activities take place (schools, theaters, etc.), and are equipped with a fast data acquisition system for real-time event visualization. We have developed a tracker for cosmic rays composed of scintillator bars with embedded wavelength shifting (WLS) fibers coupled to Silicon Photomultipliers (SiPMs). The SiPMs are read out with Caen DT5702 Front-End boards and the data acquisition is performed with custom C++/python based software. The DAQ is controlled by a Raspberry Pi 4 single computer board, equipped with a GPS for precise timing and position information and a Sense HAT board for environmental monitoring. This results in a simple, portable system allowing online track visualisation and cosmic ray rate measurements.

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## other Collaboration

## Subcategory

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**Primary author:** PILLERA, Roberta (Politecnico and INFN Bari)

**Co-authors:** GARGANO, Fabio (INFN); MAZZIOTTA, Mario Nicola (INFN Bari); DI VENERE, Leonardo (INFN / University of Bari); LOPARCO, Francesco; LOPORCHIO, Serena (INFN); BISSALDI, Elisabetta; Prof. GIOR-DANO, Francesco (University and INFN Bari); Dr SERINI, Davide (Bari University and INFN); Dr ALTOMARE, Corrado (University and INFN Bari); DE GAETANO, Salvatore (Università degli Studi di Bari and INFN Sezione di Bari)

**Presenter:** PILLERA, Roberta (Politecnico and INFN Bari)

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