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Cosmic Rays Cube, muon's detector at IF-UNAM

Content

The design, characterization, and deployment of the Cosmic Ray Cube (CRC) muon detector at the Institute of Physics at UNAM are presented in this work. This detector was designed by the Gran Sasso National Laboratory in collaboration with the Dark Matter and Neutrino Laboratory at IFUNAM. The CRC detector is based on plastic scintillators and silicon photomultipliers in a 4-layer array capable of providing coincidence measurements to identify muon events. Due to its high portability and low power consumption, this detector is ideal for applications with spatial and power constraints. The detector was deployed in the vicinity of the TRIGA MARK III fission reactor at the National Institute for Nuclear Research to measure the muon flux and estimate the background for a future neutrino detector prototype. It is currently taking data at UNAM to measure the muon flux in Mexico City and forms part of an active worldwide network of CRC detectors.

Summary

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