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Measurement of the muon flux in the bunker of Monte Soratte with the CRC detector

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The Cosmic Ray Cube is a portable tracking device conceived for outreach activities allowing a direct scientific experience for secondary school students. In the context of the PTOLEMY project, the detector was used to measure the differential muon flux inside the bunker of Monte Soratte, a suitable location at about 50 km north of Rome (Italy). Its simple operation was crucial to finalise the measurements, carried out during the COVID-19 lockdown in a site devoid of scientific equipment. The fine scanning of the differential muon rate highlights the details of the mountain above the bunker providing a map of the thickness of the rock which surrounds the detector. The result shows a muon flux at the Soratte hypogeum of about two orders of magnitude lower than the one observed on the surface.

Collaboration

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