

## MEASUREMENT OF ANGULAR DISTRIBUTION OF COSMIC MUONS IN CANFRANC UNDERGROUND LABORATORY

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Monitoring and control of the background condition is one of the key requirements in the search for Dark Matter, Double Beta Decay, or Gravitational Waves. To reduce the signals caused by the cosmic rays, sensitive experiments have to be located in deep underground. If a detailed geological model of the overburden is missing or is incomplete, it is important to verify the calculations by actual measurement of the muon flux and its distribution.

We present the experimental setup and the first results from the ongoing measurement of the muon flux at Laboratorio Subterráneo de Canfranc (LSC) in Spain. Our Muon Monitor is made of 22 modules of SC16 plastic scintillator detectors [1] stacked in 3 layers: 3x3 on the top, 3x3 on the bottom and 2x2 modules in the middle. The same modules are used in the cosmic ray experiment EMMA [2] in the Pyhäsalmi mine.



[1] Akhrameev E V et al. 2009 Nucl. Inst. Meth. in Phys. Res. A 610 419

[2] Kuusiniemi et al., 2013 J. Phys.: Conf. Ser. 409 012067