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Background studies with actively vetoed germanium gamma-ray detector in Felsenkeller tunnels VIII and IX

Tuesday, 26 June 2018 19:00 (1h 30m)

A new underground accelerator facility is being built in tunnels VIII and IX of the Dresden Felsenkeller. Previous gamma-ray background measurements in another part of the tunnel system showed suitable conditions for in-beam nuclear astrophysics experiments [1,2] using germanium detectors with active veto against the cosmic-ray muons. These stable ion beam experiments are of high importance to understand the reactions of the stellar burning phases, and in particular the solar fusion reactions.

The new laboratory is now ready to host measurements mapping the background conditions. This work reports on the measured background in actively vetoed gamma-ray detector at the place of the target station in the laboratory used for the upcoming experiments.

[1] T. Szücs et al., Eur. Phys. Jour. A 48 (2012) 8.
[2] T. Szücs et al., Eur. Phys. Jour. A 51 (2015) 33.

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