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Type: **Plenary talk**

The MURAVES experiment : study of the Vesuvius Great Cone with Muon Radiography

Thursday, November 25, 2021 11:10 AM (20 minutes)

The MURAVES experiment aims at the muographic imaging of the internal structure of the summit of Mt. Vesuvius, exploiting muons produced by cosmic rays.

Though presently quiescent, the volcano carries a dramatic hazard in its highly populated surroundings. The challenging measurement of the rock density distribution in its summit by muography, in conjunction with data from other geophysical techniques, can help the modeling of possible eruptive dynamics.

The MURAVES apparatus consists in an array of three independent and identical muon trackers, with a total sensitive area of 3 square meters. In each tracker, a sequence of 4 XY tracking planes made of plastic scintillators is complemented by a 60 cm thick lead wall inserted between the two downstream planes to improve rejection of background from low energy muons. The apparatus is currently acquiring data. Preliminary results from the analysis of a first data sample will be presented.

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