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Simulation tool for MRPC telescopes of EEE experiment

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The Extreme Energy Events (EEE) experiment consists in a network of cosmic muon trackers, each made of three MRPC, able to precisely measure the absolute muon crossing time and the muon integrated angular flux at the ground level. To study the Multi-gap Resistive Plate Chambers (MRPC) telescope response and assess the detector performance, a simulation tool implementing the Multi-gap Resistive Plate Chambers (MRPC) telescope response was developed in a GEANT4-based framework (GEMC). The framework has been validated by comparing simulations to EEE telescope data. A detailed description of telescope response is not only crucial to carry on the physics program of the EEE project, but it may open other research avenues, such as using the telescope in combination with other detectors, to perform a (muon) tomography of material surrounding the telescope.
In this contribution, the EEE simulation framework will be presented, reporting results and discussing further applications.

TIPP2020 abstract resubmission?

No, this is an entirely new submission.

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