EPS-HEP2023 conference



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Type: Parallel session talk

Detecting disappearing tracks and other exotica at a Muon Collider

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Exotic beyond the Standard Model signatures, such as long-lived particles or high-mass resonances, are prime examples of the physics potential of a high-energy muon collider. These experimental signatures impose significant constraints on the detector design and requirements on the event reconstruction techniques employed to analyse the data.

For example: dedicated track reconstruction techniques for ionising particles that disappear as they traverse the detector, dedicated data-paths for late-decaying states, or high-granularity calorimetry to aid with the reconstruction of highly-boosted objects.

This talk will highlight some of the experimental challenges that arise when targeting these exotic signatures at a muon collider, and present the development work which is being done to make them possible as well as the expected reach.

Collaboration / Activity

IMCC

Primary author: MELONI, Federico (ATLAS (ATLAS SM and Beyond))Presenter: MELONI, Federico (ATLAS (ATLAS SM and Beyond))Session Classification: T10 Searches for New Physics