

Muon-Induced Di-Tau Production: A Probe of New (Pseudo)scalars

Thursday, September 25, 2025 3:30 PM (30 minutes)

High-energy muon beams have been extensively used to investigate light new physics in the NA64-mu experiment at CERN. Recently, a new impetus for these efforts emerged with the possible use of forward TeV-scale muons at the LHC. The future could bring significant progress in this direction with dedicated, intense muon beams planned for proposed muon experimental facilities.

In this talk, we will illustrate the physics potential of employing such muon beams in dedicated searches using an active target material. Of particular interest will be muon-induced di-tau production, which can be used to probe BSM (pseudo)scalars and perform measurements of new physics contributions to the anomalous magnetic moment of the tau lepton.

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Session Classification: Plenary 13

Track Classification: Plenary