

Phenomenology 2025 Symposium



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Heavy QCD axions at Muon Collider

Monday 19 May 2025 17:30 (15 minutes)

We study the physics potentials of heavy QCD axions at 3/10 TeV muon colliders (MuC). These heavy QCD axions differ from typical ALPs as they solve the Strong CP puzzle, and their phenomenology is driven by the $aG\tilde{G}$ couplings. Different realizations of heavy QCD axions have different implications, and we show comprehensively how muon colliders can uniquely probe them with a huge parameter space. Additionally, we find a set of vector-boson-scattering channels at MuC that dominate the axion production rate rather than the usual vector-boson-fusion channel.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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