

Topological Portal to the Dark Sector

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We propose a topological portal between quantum chromodynamics (QCD) and a dark QCD-like sector. Such a portal is present only for a unique coset structure after QCD confinement and it connects three QCD to two dark pions. When gauged, it is the leading portal between the two sectors, providing an elegant self-consistent scenario of light thermal inelastic dark matter. The inherent antisymmetrization due to a Wess–Zumino–Witten-like effective interaction leads to diminished annihilations at later times and suppressed direct detection. However, novel collider signatures offer tremendous prospects for discovery at Belle II.

Title of the Poster/Talk

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Related Papers/Preprints

<https://arxiv.org/pdf/2401.09528>

Primary author: SELIMOVIC, Nudzeim (INFN Padova)

Presenter: SELIMOVIC, Nudzeim (INFN Padova)

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