

## Phenomenology 2022 Symposium: From Virtual to Real



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## Twin Quark Dark Matter from Cogenesis

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A novel dark matter candidate is proposed, arising from spontaneously breaking of the twin color group in the fraternal twin Higgs scenario. A matter/antimatter asymmetry is co-generated in both sectors from the sources of the twin color breaking. A quark that is singlet under the residual twin color group decay into a colorless twin quark and twin lepton, which are consisted of asymmetric dark matter, and provides an additional portal between the visible and twin sectors. This type of dark matter is decaying or kinematically stable, depending on a simple mass relation between the two components. We present current constraints and possible signatures of this model in future experiments as well as the connections between signals in the context of the naturalness, dark matter, and matter/antimatter puzzles.

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