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Exploring new physics in the Dark Sector at CMS

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Among the intriguing scenarios of new physics that provide explanation to several shortcomings of the Standard Model (SM), hidden valley scenarios include a Dark Sector that extends the SM with a non-Abelian gauge group, similar to quantum chromodynamics with new matter and gauge fields analogous to the SM quark and gluon fields. This may result in a rich phenomenology which we can access through portal interactions. In this talk we present the most recent results from CMS that explore such Dark Sectors by exploiting dedicated data streams and innovative usage of the CMS detector. We focus on the recent results obtained using the full Run-II data-set collected at the LHC.

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