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Non-WIMP dark matter searches with the ATLAS detector

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Collider searches for dark matter (DM) so far have mostly focused on scenarios where DM particles are produced in association with heavy standard model (SM) particles or jets. However, no deviations from SM predictions have been observed. Several recent phenomenology papers have proposed models that explore the possibility of accessing the strongly coupled dark sector, giving rise to unusual and unexplored collider topologies. The results of recent searches on dark QCD, semi-visible jets, dark sector, dark photon, LLP, and ALPs on 13 TeV pp data from the LHC, their interplay and interpretation will be presented.

Submitted on behalf of a Collaboration?

Yes

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