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Hidden Valley searches at the LHCb

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Dark shower is a generic feature of the Hidden Valley (HV) models. It has interesting implications on collider studies on Neutral Naturalness models. Bound states in the hidden sector are produced with a high multiplicity, low masses, and long lifetimes. A collider search of such signals requires good vertex resolution, low energy threshold, as well as a good particle id to veto the background. We show that the LHCb provides an ideal environment to study HV models. Further, we compare the sensitivities at the LHCb with those at the ATLAS/CMS.

Summary

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