



Contribution ID: 335

Type: **Parallel talk**

Direct searches for new low-mass particles at LHCb

Friday 12 July 2019 09:00 (15 minutes)

The LHCb detector at the LHC offers unique coverage of forward rapidities. The detector also offers a flexible trigger that enables low mass states to be recorded with high efficiency, and a precision vertex detector that enables excellent separation of primary interactions from secondary decays. This allows LHCb to make important (and world-best) contributions in these regions of phase space in the search for dark photons and other low-mass resonances that decay to dimuon final states. A selection of results from these searches will be presented, alongside the potential of future measurements that probe the low-mass region using dimuon, dielectron, and diphoton final states.

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