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Search for low mass dark photons in dimuon channel using data collected by scouting trigger in Run2 in CMS

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After several years of running of the LHC, new physics has not yet been found. Therefore one of the best hopes for discovering new physics is exploring the difficult to access corners of phase space, such as low mass regions where collecting the data is challenging. Data scouting or trigger level analysis is one such way to achieve this. This special dataflow, which utilises event-size reduction to significantly reduce event filtering, will be presented in this poster. A search for prompt dark photons in the dimuon channel performed by CMS utilising the dimuon scouting data to improve its sensitivity at low mass will be used to demonstrate the benefits of this approach.

Primary author(s) : COLLABORATION, CMS; MUKHERJEE, Swagata (RWTH Aachen University)

Presenter(s) : MUKHERJEE, Swagata (RWTH Aachen University)

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