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Using photon collisions to search for dark matter

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We outline a novel search strategy for scalar leptons and dark matter targeting a key area of phase space favoured by cosmological observations and muon $g-2$ anomalies. This region is experimentally challenging and currently inaccessible at the LHC. By using the LHC protons to source photon-photon interactions and detecting the intact protons with forward detectors, recently installed by the ATLAS and CMS experiments, we have access to new experimental information. We exploit this information to powerfully discriminate against WW backgrounds and gain sensitivity in this challenging LHC blind spot. This is joint work with Jesse Liu.

Additional comments

Primary authors: BERESFORD, Lydia Audrey (University of Oxford (GB)); LIU, Jesse (University of Oxford)

Presenter: BERESFORD, Lydia Audrey (University of Oxford (GB))

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