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70 - WITHDRAWN - Search for dark matter in events with missing transverse momentum and a Z boson produced in 13 TeV proton-proton collisions with the ATLAS detector at the LHC

Tuesday 4 June 2019 17:06 (2 minutes)

The Large Hadron Collider (LHC) Run II took place from 2015 until the end of 2018, with proton-proton collisions at 13 TeV centre-of-mass energies. During this time the ATLAS detector collected a large dataset of over 140 fb^{-1}. Some theories predict that WIMP dark matter can be produced in proton-proton collisions, yielding events with large missing transverse momentum carried by a dark matter particle-antiparticle pair. Our search focuses on events where the recoil is in a Z boson decaying to e^+e^- or $\mu^+\mu^-$. In this talk an overview of the search will be presented, including the signal models studied, major backgrounds and their estimation techniques, and the procedure used to set limits on the dark matter particles. Results will be presented using the 2015+2016 dataset, and prospects for the full Run II analysis will be discussed.

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