Contribution ID: **137** Type: **not specified**

Dark Matter search in ATLAS in the H -> two photons + MET channel: Run 1 results and Run 2 prospects

Thursday, August 6, 2015 2:00 PM (15 minutes)

Mono-objects produced in association with large missing transverse momentum (MET) enable fairly model-independent searches for dark matter candidates. Following the discovery of a Higgs boson near 125 GeV, mono-Higgs channels provide very interesting final states for dark matter search. This talk presents an analysis in the H -> two photons + MET final state in ATLAS using 20 fb-1 of 8 TeV data. Results are interpreted as model-independent exclusion limits on the production cross section of non-SM states, as well as exclusion of parameter spaces of simplified models of dark matter production. Also presented is a strategy for dark matter searches in mono-Higgs final states with LHC Run 2 data, as recommended by the LHC Dark Matter Forum.

Oral or Poster Presentation

Oral

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Session Classification: BSM Physics

Track Classification: BSM Collider