Contribution ID: **145** Type: **Contributed Oral**

Detecting Velocity Dependent Milli-Magnetic Dark Abelian Monopoles at the LHC

Saturday, 17 February 2024 21:45 (15 minutes)

Current experiments investigating the existence of magnetic monopoles and other exotic phenomena at the LHC such as MoEDAL are underway. This has included the search for velocity dependent visible monopoles. The upcoming MAPP experiment will pursue the possible detection of milli-magnetically charged dark monopoles. Many novel extended features of our model are proposed, including dark magnetic moment and beta-dependent milli-charged dark magnetic couplings. This theory has lead to the development of a MadGraph model with numerical results agreeing strongly with analytic expectations for the production mechanisms of both Drell-Yan and Photon Fusion. We conclude with a brief discussion of our upcoming detector simulation.

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Session Classification: Evening 4 - Feb. 17, 2024

Track Classification: Physics Beyond the Standard Model