

# Searches for magnetic monopoles and beyond with MoEDAL at the LHC

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The MoEDAL experiment at the LHC is optimised to detect highly ionising particles such as magnetic monopoles, dyons and (multiply) electrically charged stable massive particles predicted in a number of theoretical scenarios. MoEDAL, deployed in the LHCb cavern, combines passive nuclear track detectors with magnetic monopole trapping (MMT) volumes, while spallation-product backgrounds are being monitored with an array of MediPix pixel detectors. An introduction to the detector concept and its physics reach, complementary to that of the large general purpose LHC experiments ATLAS and CMS, will be given. Emphasis will be given to the first MoEDAL results, where the null results from a search for magnetic monopoles in MMTs exposed in 2012 LHC collisions are used to set the first LHC limits on particles with magnetic charges more than 1.5 Dirac charge. The potential to search for heavy, long-lived supersymmetric electrically-charged particles and multi-charged states is also discussed.

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