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Search for magnetic monopoles with the MoEDAL forward trapping detector in 2.11fb^{-1} of 13 TeV proton-proton collisions at the LHC

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The MoEDAL experiment addresses a decades-old issue, the search for an elementary magnetic monopole, first theorised in 1931 by Dirac to explain electric charge quantisation. Since then it was showed that magnetic monopoles occur naturally in grand unified theories as solutions of classical equations of motion. The dedicated experiment can enjoy a new energy regime opened at the LHC allowing direct probes of magnetic monopoles at the TeV scale for the first time. In this poster, recent results obtained with 13 TeV proton-proton collision data at the MoEDAL experiment, update of our previous search using nearly six times more integrated luminosity and including additional models, will be presented and discussed. MoEDAL pioneered a technique in which monopoles would be slowed down in a dedicated aluminium array and the presence of trapped monopoles is probed by analysing the samples with a superconducting magnetometer, obtaining the first LHC constraints for monopoles carrying twice or thrice the Dirac charge.

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