

The search of magnetic monopoles in the CMS Experiment

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The magnetic monopoles in the CMS Experiment could be studied as a long-lived particle by the reconstruction of the trajectory of a highly ionising particle in the Tracking system with a dedicated algorithm called TrackCombiner, and the expected specific shower shape in the ECAL crystals. The processes Drell-Yan and Photon Fusion are benchmarks models for the production of magnetic monopoles in particle colliders. Both models were used to produce mass points between 1000 GeV and 4500 GeV. A 95% confidence level upper limit on the cross section of the magnetic monopole's production via Drell-Yan process can be set for the Run 2 of the LHC.

Summary

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