

# Looking for Monopoles in ALICE

*Wednesday 29 July 2020 20:00 (15 minutes)*

The magnetic monopole-antimonopole pair production, and their bound state, are estimated for colliders, focusing mainly in ALICE. The calculation is based on Dirac's theory and considers photon fusion and Drell-Yan, using the mass range from 300 GeV up to 3 TeV. The number of expected events is given considering LHC energies and luminosity. In case of pp collisions, the higher contribution to the cross section comes from photon fusion process, while for the monopolium it comes from Drell-Yan. In a complement to the cross sections, energy and momentum distributions, that can improve the chances of detection, are analyzed. It is also discussed the inclusion of a magnetic moment parameter, given higher values to the cross sections and enlarging the applicability of the theory.

## Secondary track (number)

03

**Primary author:** Prof. GAY DUCATI, M.Beatriz (UFRGS)

**Presenter:** Prof. GAY DUCATI, M.Beatriz (UFRGS)

**Session Classification:** Beyond the Standard Model

**Track Classification:** 03. Beyond the Standard Model