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SUSY discovery prospects with MoEDAL

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We present a study of searching for massive long-lived particles at the MoEDAL detector. MoEDAL is sensitive to highly ionising objects such as magnetic monopoles or massive (meta-)stable charged particles and we focus on the latter in this talk. Requirements on triggering or reducing the cosmic-ray and cavern background, applied in the ATLAS and CMS analyses for long-lived particles, are not necessary at MoEDAL, due to its completely different detectors and extremely low background.

On the other hand, MoEDAL requires the particle to have low velocities, which result in small signal cross-sections. Using Monte Carlo simulations, we compare the sensitivities of MoEDAL versus ATLAS/CMS for various long-lived particles in supersymmetric models, and seek for a scenario where MoEDAL is complementary to ATLAS and CMS.

This contribution is based on an upcoming article.

Content of the contribution

Both

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