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Prospects for SUSY discovery with MoEDAL

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We present a study on searches for supersymmetric metastable particles at the MoEDAL detector. MoEDAL is sensitive to highly ionising objects such as magnetic monopoles or massive long-lived charged particles and we focus on the latter in this talk. Requirements for triggering or reducing cosmic-ray and cavern backgrounds, applied in ATLAS and CMS analyses, are not necessary at MoEDAL, due to its different detector concept, requiring slow-moving particles, and low background. Using Monte Carlo simulations, we compare the sensitivities of MoEDAL versus ATLAS/CMS for various long-lived particles in supersymmetric models, and seek a scenario where MoEDAL can act in a complementary way to ATLAS and CMS.

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