



MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

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The MoEDAL Experiment at the LHC - a new light on the High Energy Frontier

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MoEDAL is a pioneering experiment designed to search for highly ionising messengers of new physics such as magnetic monopoles or massive (pseudo-)stable charged particles, that are predicted to exist in a plethora of models beyond the Standard Model. It started data taking at the LHC at a centre-of-mass energy of 13 TeV, in 2015. Its ground breaking physics program defines a number of scenarios that yield potentially revolutionary insights into such foundational questions as: are there extra dimensions or new symmetries; what is the mechanism for the generation of mass; does magnetic charge exist; and what is the nature of dark matter. MoEDAL purpose is to meet such far-reaching challenges at the frontier of the field. We will present the first results from the MoEDAL detector on Magnetic Monopole production that are the world's best for Monopoles with multiple magnetic charge. In conclusion, plans to install a new MoEDAL sub-detector designed to search for very long-lived neutral particles as well as mini-charged particles will be very briefly discussed.

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