

A DM interpretation of the MB excess and its implications in CEvNS experiments

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The MiniBooNE excess has been considered as a potential new physics signal, and various approaches including dark matter interpretations and neutrino-sector physics have been investigated to explain the excess. We revisit the dark matter interpretation, imagining the situation where dark matter emerges from the decays of charged mesons, and discuss a few plausible scenarios that are not in conflict with the existing constraints. We then discuss how these scenarios can be tested in beam-based CEvNS experiments including CCM and JSNS².

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