

Challenging the Stability of Light Millicharged Dark Matter

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So far, there is no experimental evidence of dark matter interacting with electromagnetism. Naively, this rules out any sizeable electric charge assigned to dark matter particles, thereby suppressing interactions with photons. Consequently, it is often taken for granted that a light dark matter candidate carrying a tiny electric charge is cosmologically stable. In this talk, I will argue that this is not necessarily the case. Quite the contrary, the fact that very light bosonic dark matter is long-lived is far from trivial.

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