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Displaced vertices from Pseudo-Dirac Dark Matter

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I will discuss a model of Pseudo-Dirac Dark Matter. This model proposes a new fermionic state with both Dirac and Majorana mass terms. In the limit where the Dirac mass dominates, a pair of dark particles appears with a small mass splitting, the lighter of which is a dark matter candidate. The dark states have both Dirac-like and Majorana-like features, evading direct detection constraints with a spin-dependent scattering rate and producing the correct relic density with an unsuppressed coannihilation rate. The heavier state can be produced at the LHC with a decay length of order the detector radius, offering a striking displaced vertex signal.

Author: JACQUES, Thomas David (Scuola Int. Superiore di Studi Avanzati (IT))

Presenter: JACQUES, Thomas David (Scuola Int. Superiore di Studi Avanzati (IT))

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