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Precise Estimate of Decay of Charged Fermion in Electroweak-Charged Dark Matter Model

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An electroweak-charged dark matter Model a well-motivated dark matter candidate. The Wino, Higgsino and 5plet fermions are typical examples.
In these models, the charged partner becomes metastable.
Disappearing charged tracks and soft objects produced by the charged partner are important for the test of this model in collider experiments.
The signals strongly depend on the lifetime and decay branching ratio of the charged partner.
Therefore, accurate theoretical calculations of the decay are required.
In this talk, I will present the state-of-the-art results incorporating with loop corrections for these decays and discuss implications for the collider signal.

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