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Precise Estimate of Chargino Decay

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The neutralinos are well-motivated dark matter candidates and have been studied extensively. If the mass difference between the neutralino and chargino is relatively small, then they can be detected as, for example, disappearing charged tracks in collider experiments. The constraint on the chargino mass by those experiments strongly depends on the chargino lifetime, and hence, it is important to evaluate the decay rate precisely for a given mass difference.

In this talk, we will discuss the up-to-date estimation of the decay branching and decay rate of the chargino including electroweak radiative corrections and expected errors. We will also talk about the experimental implications provided by our results.

Authors: IBE, Masahiro (Institute for Cosmic Ray Research, University of Tokyo); MISHIMA, Masataka (ICRR, The University of Tokyo); SHIRAI, Satoshi (Kavli IPMU); NAKAYAMA, Yuhei (The University of Tokyo)

Presenter: NAKAYAMA, Yuhei (The University of Tokyo)

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