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Effects of Lepton Flavour Violation on Chargino Production at the Linear Collider

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We study the effects of lepton flavour violation (LFV)
on the production processes $e^+e^- \to \tilde{\chi}_i^+ \tilde{\chi}_j^-$
at a linear collider with longitudinal e^+ and e^- beam polarizations.
In the case of LFV the sneutrino mass eigenstates have
no definite flavour, therefore, in the $t-$channel more than one sneutrino
mass eigenstate can contribute to the chargino production cross sections.
Our framework is the Minimal Supersymmetric
Standard Model (MSSM) including LFV terms.
We show that in spite of the restrictions on the LFV parameters
due to the current limits on rare lepton decays, the cross section
$\sigma(e^+e^- \to \tilde{\chi}_1^+ \tilde{\chi}_1^-)$ can change up to one order
of magnitude by the influence of LFV.
We point out that this can be the case even if the present
bound on BR($\tau^- \to e^-\gamma$) improves by a factor of thousand.
Our results could have an important impact on the strategies for
determining the underlying model parameters at the linear collider.

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