Theoretical prediction for pure Higgsino

\( \Delta m(\tilde{\chi}_1^\pm, \tilde{\chi}_1^0) \) [GeV]

\( m(\tilde{\chi}_2^0) = m(\tilde{\chi}_1^0) + 2\Delta m(\tilde{\chi}_1^\pm, \tilde{\chi}_1^0) \)

Disappearing track, PHYS-PUB-2017-019, \( m(\tilde{\chi}_2^0) = m(\tilde{\chi}_1^0) \)

LEP2 \( \tilde{\chi}_1^\pm \) excluded

All limits at 95% CL

\( pp \rightarrow \tilde{\chi}_2^0 \tilde{\chi}_1^\pm, \tilde{\chi}_2^0 \tilde{\chi}_1^0, \tilde{\chi}_1^+ \tilde{\chi}_1^-, \tilde{\chi}_1^+ \tilde{\chi}_1^0 \) (Higgsino)

\( \sqrt{s} = 13 \text{ TeV}, 36.1 \text{ fb}^{-1} \)

\( m(\tilde{\chi}_1^\pm) \) [GeV]

\( m(\tilde{\chi}_1^0) \) [GeV]

ATLAS Preliminary

March 2018