The CMS Preliminary report presents a 95% CL upper limit on cross section (pb) at 137 fb\(^{-1}\) (13 TeV).

The plot illustrates the exclusion limits for the process \(pp \rightarrow \tilde{t}_2\tilde{t}_2, \tilde{t}_2 \rightarrow \tilde{t}_1Z(H), \tilde{t}_1 \rightarrow t\tilde{\chi}_1^0\) using NNLO+NNLL theory. The diagram shows observed and expected limits with uncertainties.

Key points:
- BR(\(t_2 \rightarrow t_1 Z\)) = 0%
- \(m_{t_1} - m_{\tilde{\chi}_1} = 175\) GeV
- Observed ± 1 \(\sigma_{\text{theory}}\)
- Expected ± 1 and 2 \(\sigma_{\text{experiment}}\)

The color scale on the right axis represents the 95% CL upper limit on cross section (pb).