

**CMS****138 fb<sup>-1</sup> (13 TeV)****m <sub>$\tilde{\chi}_1^0$</sub>  [GeV]**1000  
900  
800  
700  
600  
500  
400  
300  
200  
100 $pp \rightarrow \tilde{t}_1 \tilde{t}_1, \quad \tilde{t}_1 \rightarrow b \tilde{\chi}_1^+, \quad B(\tilde{\chi}_1^+ \rightarrow \tilde{\tau}_1^+ \nu) = B(\tilde{\chi}_1^+ \rightarrow \tilde{\nu}_\tau \tau^+) = 50\%$  $\tilde{\tau}_1^+ \rightarrow \tau^+ \tilde{\chi}_1^0, \quad \tilde{\nu}_\tau \rightarrow \nu \tilde{\chi}_1^0$  $m_{\tilde{\chi}_1^+} - m_{\tilde{\chi}_1^0} = 0.5 (m_{\tilde{t}_1} - m_{\tilde{\chi}_1^0}), \quad m_{\tilde{\tau}_1^+} - m_{\tilde{\chi}_1^0} = 0.5 (m_{\tilde{\chi}_1^+} - m_{\tilde{\chi}_1^0}), \quad m_{\tilde{\nu}_\tau} = m_{\tilde{\tau}_1^+}$ 

— Observed

- - - - - Observed  $\pm 1\sigma_{\text{theory}}$ 

— Expected

- - - - - Expected  $\pm 1\sigma_{\text{experiment}}$ 200 400 600 800 1000 1200 1400  
**m <sub>$\tilde{t}_1$</sub>  [GeV]**10<sup>2</sup>  
10  
1  
10<sup>-1</sup>  
10<sup>-2</sup>  
10<sup>-3</sup>

95% CL upper limit on cross-section [pb]

