

**CMS****77.2 fb<sup>-1</sup> (13 TeV)****m<sub>χ<sub>1</sub><sup>0</sup></sub> [GeV]**1000  
900  
800  
700  
600  
500  
400  
300  
200  
100

**x = 0.25**  
 $pp \rightarrow \tilde{t}_1 \tilde{t}_1, \quad \tilde{t}_1 \rightarrow b \tilde{\chi}_1^+, \quad \tilde{\chi}_1^+ \rightarrow \tilde{\tau}_1^+ \nu \text{ (50\%)} \text{ or } \tilde{\nu}_\tau \tau^+ \text{ (50\%)}$

$$\tilde{\tau}_1^+ \rightarrow \tau^+ \tilde{\chi}_1^0, \quad \tilde{\nu}_\tau \rightarrow \nu \tilde{\chi}_1^0$$

$$m_{\tilde{\chi}_1^+} - m_{\tilde{\chi}_1^0} = 0.5 (m_{\tilde{t}_1} - m_{\tilde{\chi}_1^0})$$

$$m_{\tilde{\tau}_1^+} - m_{\tilde{\chi}_1^0} = x (m_{\tilde{\chi}_1^+} - m_{\tilde{\chi}_1^0}), \quad m_{\tilde{\nu}_\tau} = m_{\tilde{\tau}_1^+}$$

— **Observed**    ····· **Observed** ± 1σ<sub>theory</sub>

— **Expected**    ····· **Expected** ± 1σ<sub>experiment</sub>

200    400    600    800    1000    1200    1400

**m<sub>τ̃<sub>1</sub></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]

