

Properties of the m_{T2} function

1. Identical pair decays

$$m_{\angle} < m_{T2} < m_0$$

2. Non-identical pair decays

$$m_{\angle} < m_{T2} < \max(m_0, m_0')$$

3. Small missing momentum

$$m_{T2} \rightarrow m_{\angle} \text{ as } p_T^{\text{miss}} \rightarrow 0$$

4. Small jet momentum

$$m_{T2} \rightarrow m_{\angle} \text{ as } p_T^{\text{jet}} \rightarrow 0$$

5. Jet || to missing

$$m_{T2} \rightarrow m_{\angle} \text{ for } p_T^{\text{miss}} \parallel p_T^{\text{jet}}$$

6. $m_{T2} \rightarrow m_{\angle}$ for

$$p_T^{\text{miss}} = \sum_i \alpha_i p_T^{\text{jet}(i)} \text{ for } \alpha_i > 0$$

7. 1-6 also true for composite systems

m_{T2} adopts **small** values for a variety of interesting configurations