

Almost exactly same as transverse mass –
one small generalization

$$M_{1T}^2 = \left(\sqrt{M_P^2 + \vec{\mathbf{p}}_T^2} + \sqrt{M_{\text{slash}}^2 + \vec{\mathbf{q}}_{T\text{miss}}^2} \right)^2 - u_T^2$$
$$M_T^2 = \left(\sqrt{M_P^2 + \vec{\mathbf{p}}_T^2} + \sqrt{M_Q^2 + \vec{\mathbf{q}}_{T\text{miss}}^2} \right)^2 - u_T^2$$

The “invisible mass” has become a parameter rather than the actual visible mass.

We will come back to this many times.

Suggests we should think about non-physical parameters a bit more