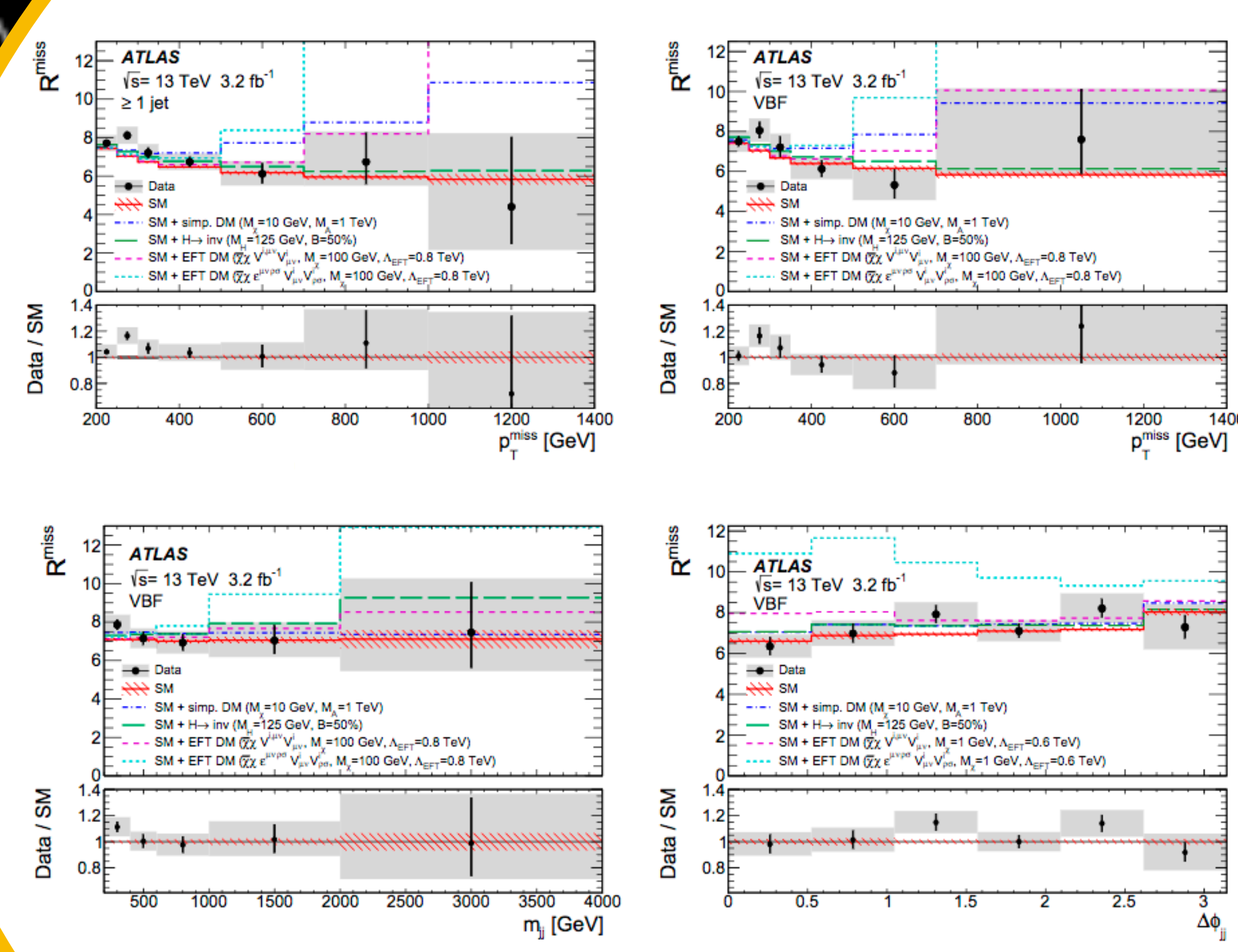


Missing Transverse Momentum

The data has been corrected for detector effects.

## Measured Ratios.



Measured as a function of three observables and two fiducial regions.

This data can be compared to any SM prediction or BSM predictions at particle level, where the BSM model produces MET+jets final states.

# A search for invisible phenomena with ATLAS.

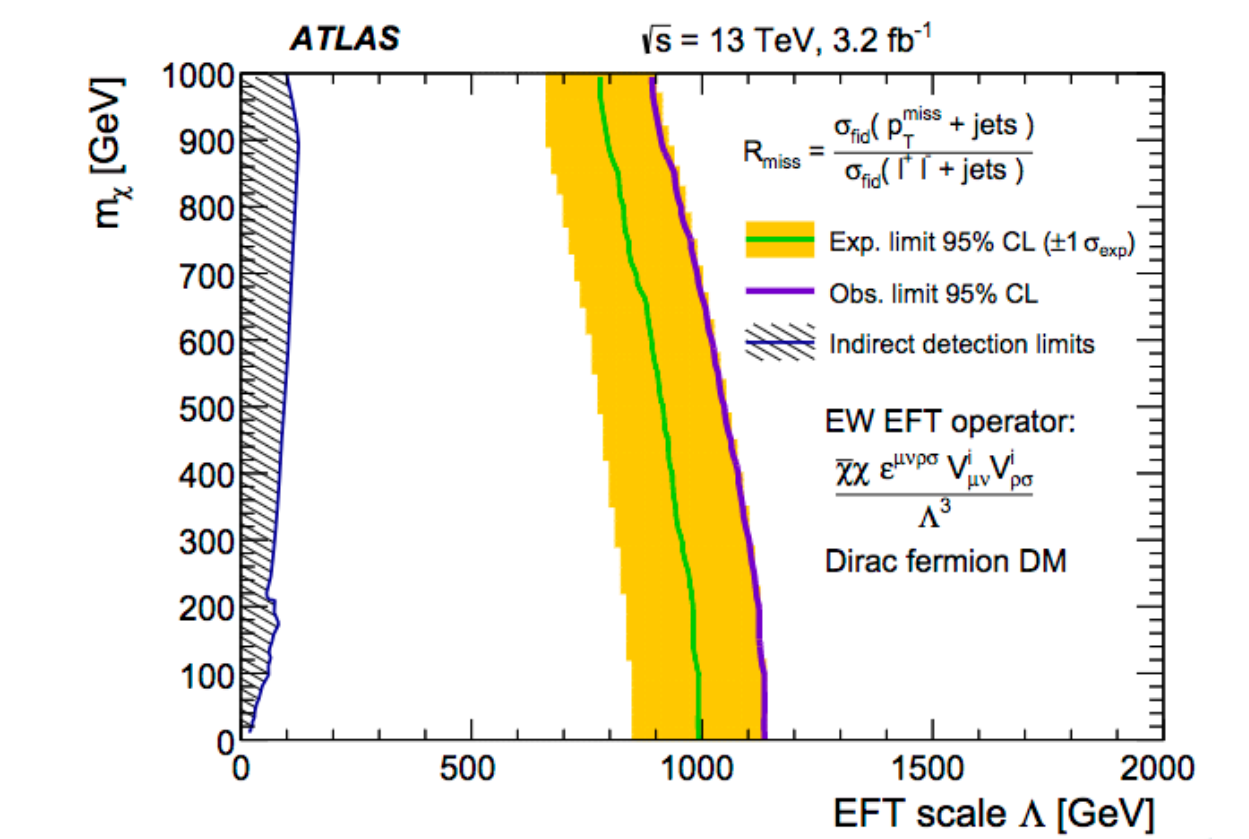
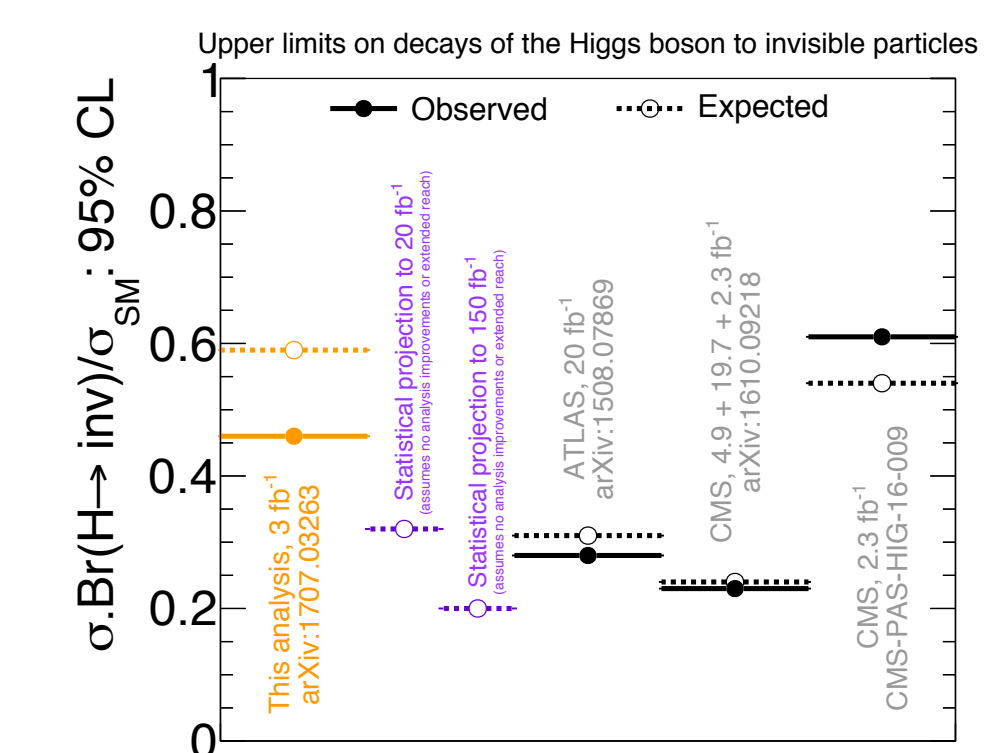
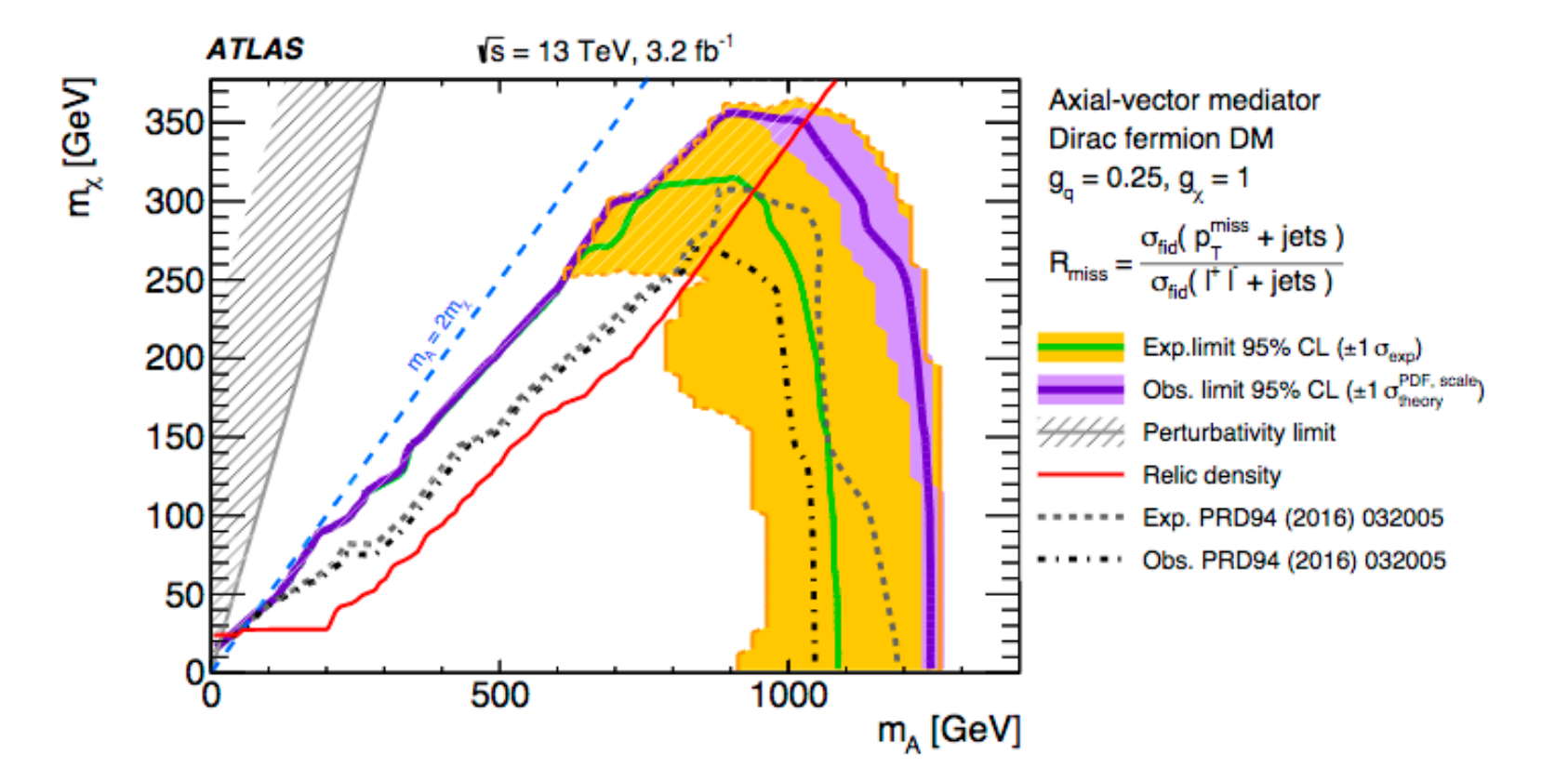
Missing transverse momentum indicates particles invisible to the detector.

$$R^{miss} = \frac{\sigma_{fid}(p_T^{miss} + \text{jets})}{\sigma_{fid}(l^+ l^- + \text{jets})}$$

Using a ratio significantly reduces experimental and theoretical uncertainties associated with jets.

## BSM Interpretations.

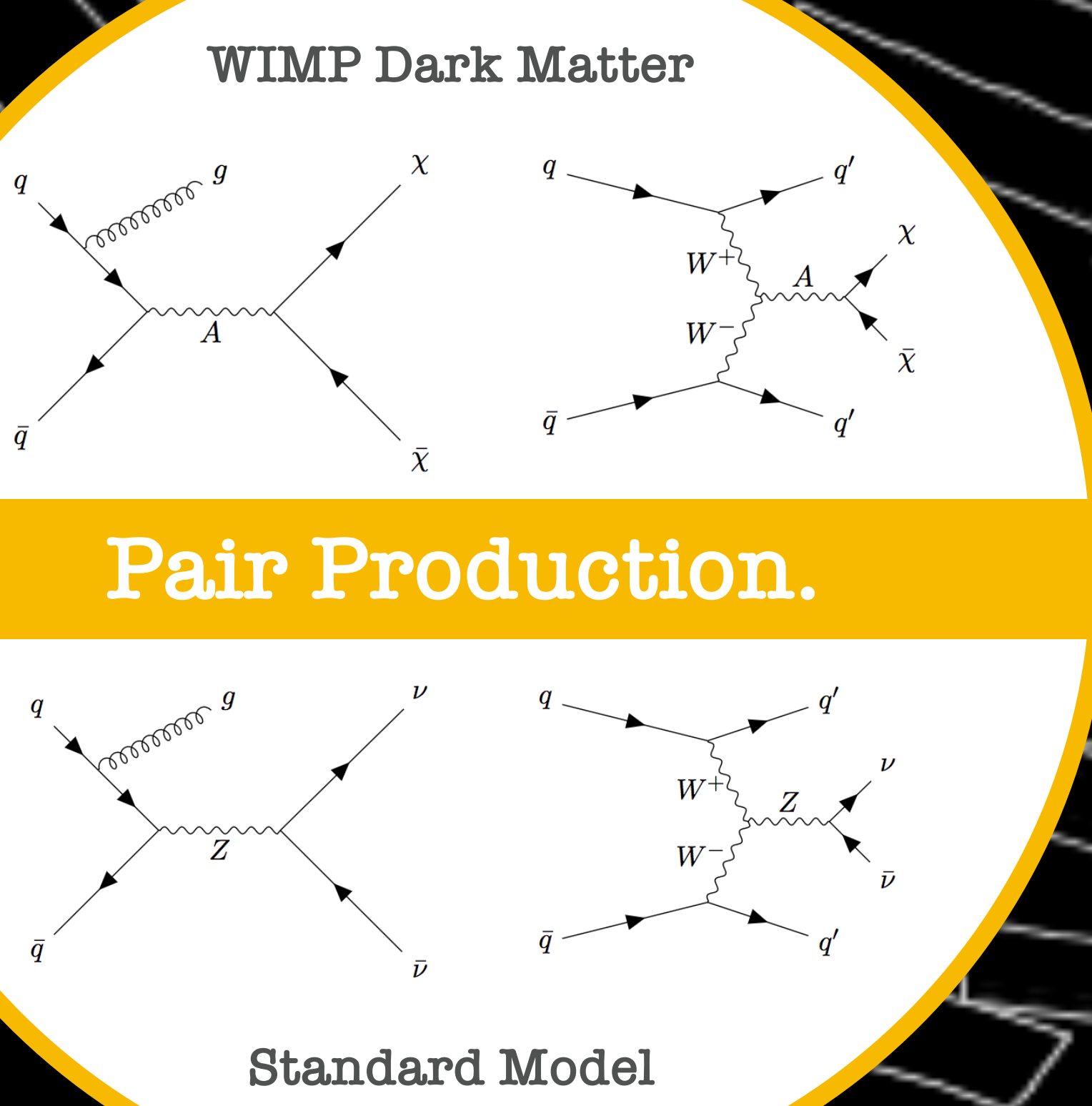
The presence of BSM physics in the numerator would lead to a discrepancy between the measured and predicted ratio.



To demonstrate BSM sensitivity, limits set on three BSM models:

EFT with general interactions of EW bosons with DM.  
Higgs Boson decay to invisible particles.  
Simplified model of WIMP DM pair production.

This analysis gives the best sensitivity.



Measurement of detector-corrected observables sensitive to the anomalous production of events containing one or more hadronic jets and large missing transverse momentum in pp collisions at  $\sqrt{s} = 13$  TeV using the ATLAS detector.

Rebecca Pickles, ATLAS Collaboration.  
[arXiv:1707.03263]  
[Eur. Phys. J. C 77 (2017) 765]



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