u-Channel Analysis Progress

Potential Solution for Q^2=3.0, W=2.32 Pythia

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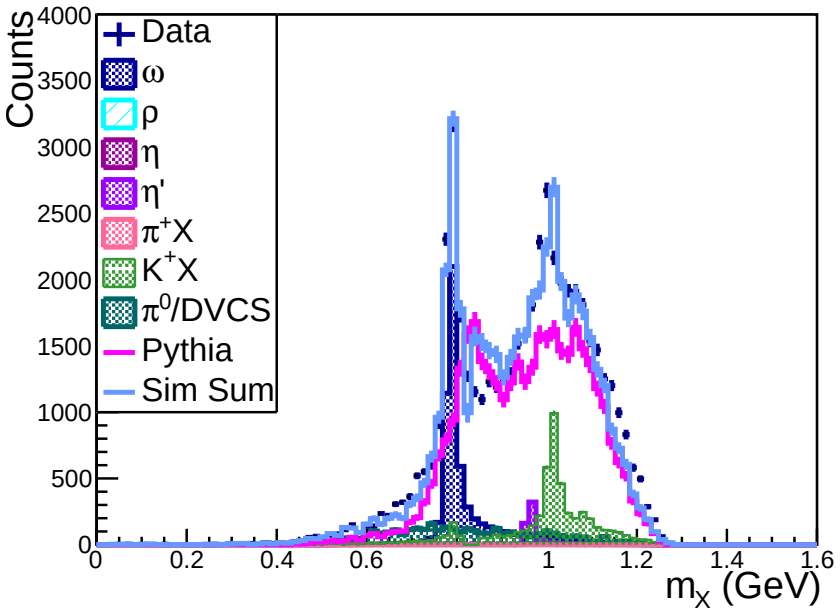
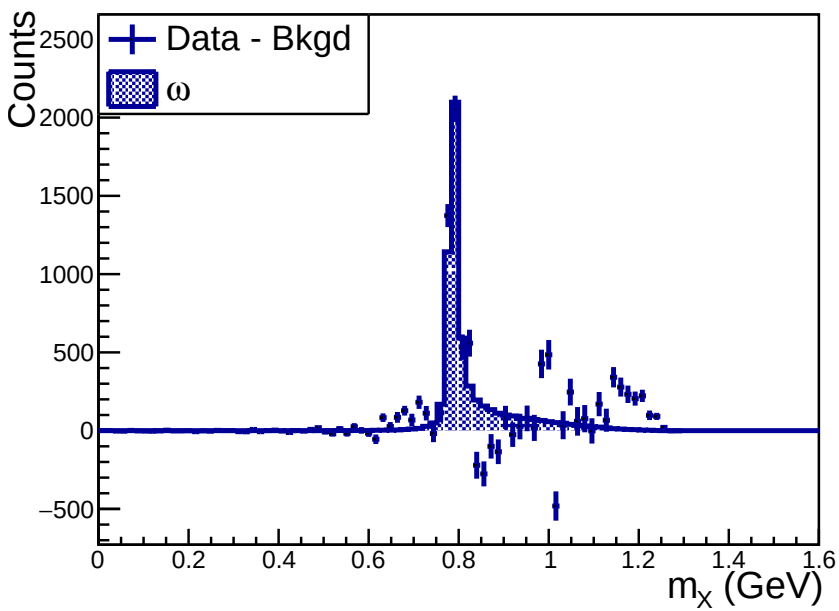
Recap

- This setting has two main issues: poor resolution (high p_{HMS} and low p_{SHMS}), and odd behaviour of Pythia
- However, we do not want to exclude it from the analysis because it has the best statistics in the u-channel
- No luck with adjusting Pythia parameters → try cuts on simulated events

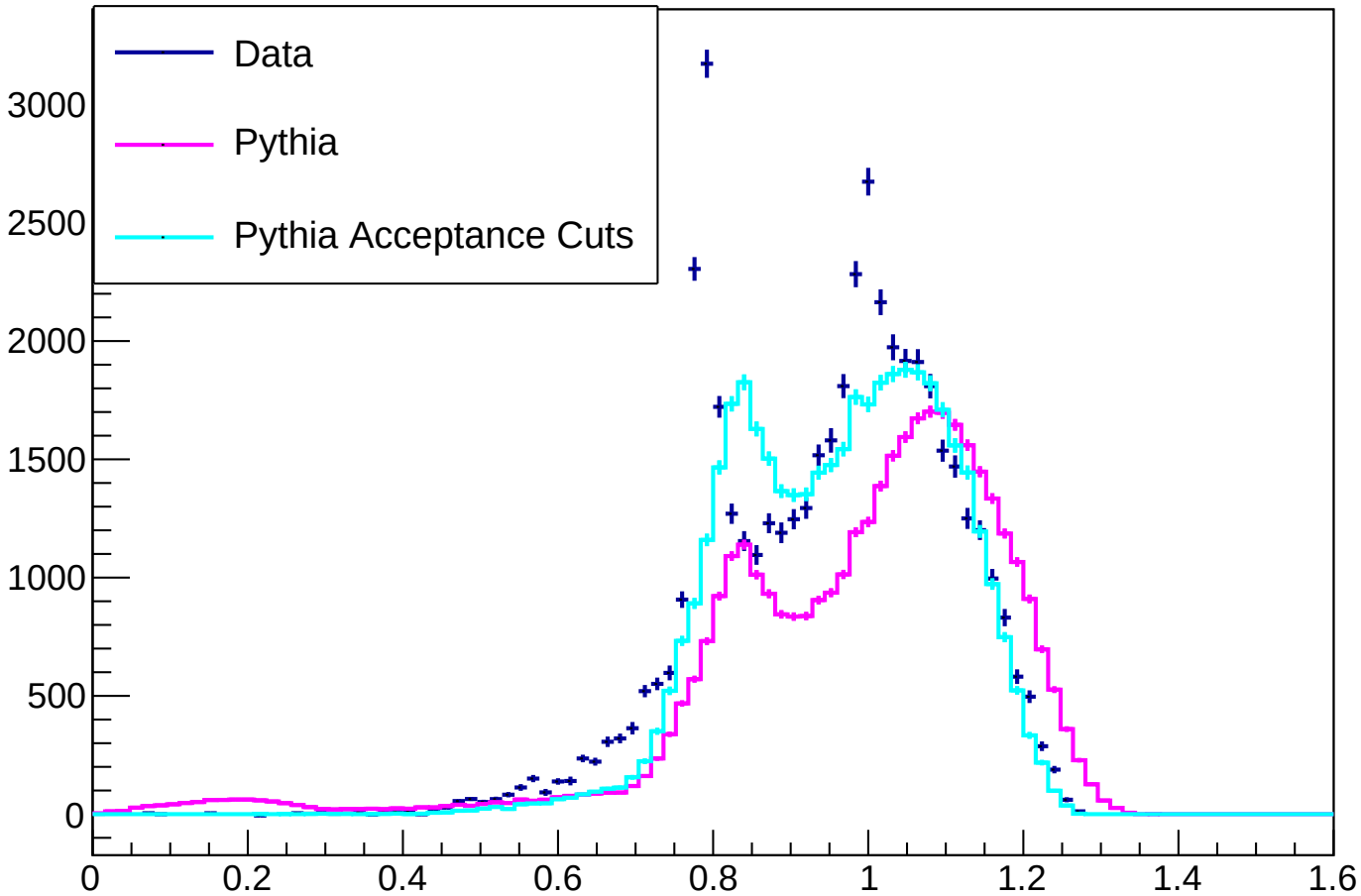




Observation

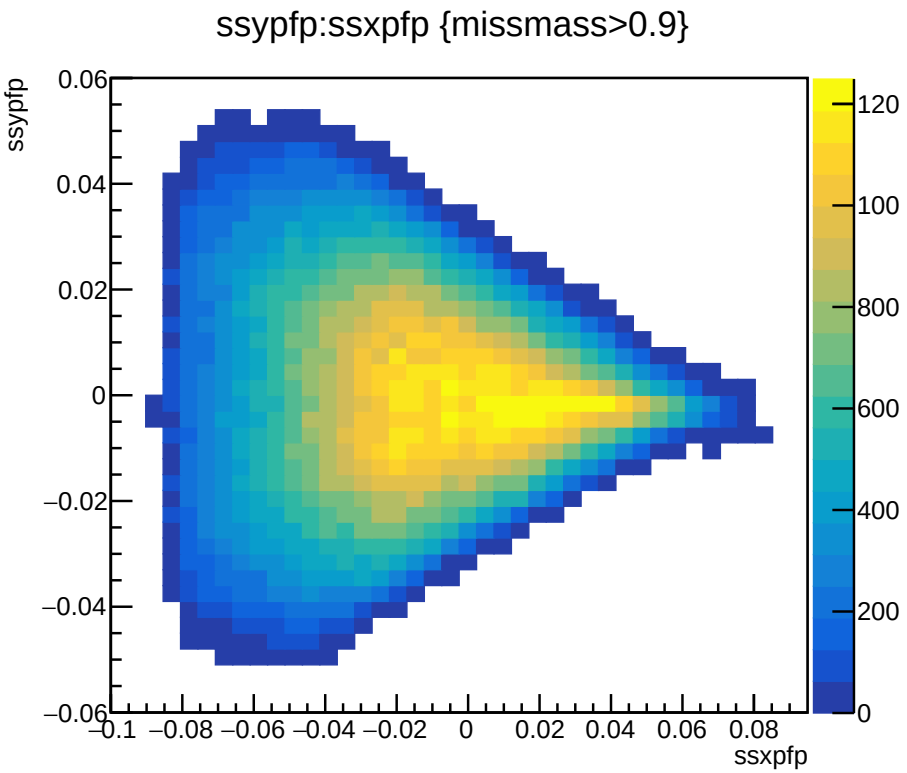
Applying acceptance cuts makes the ρ larger and phase space smaller

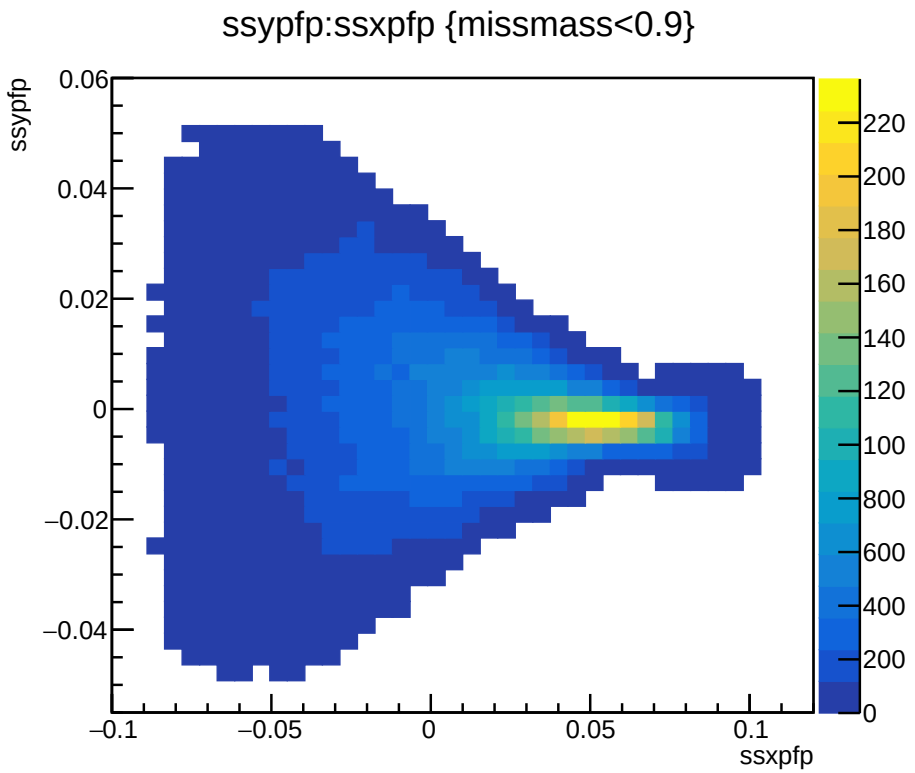
$-3.142<\phi<3.142$



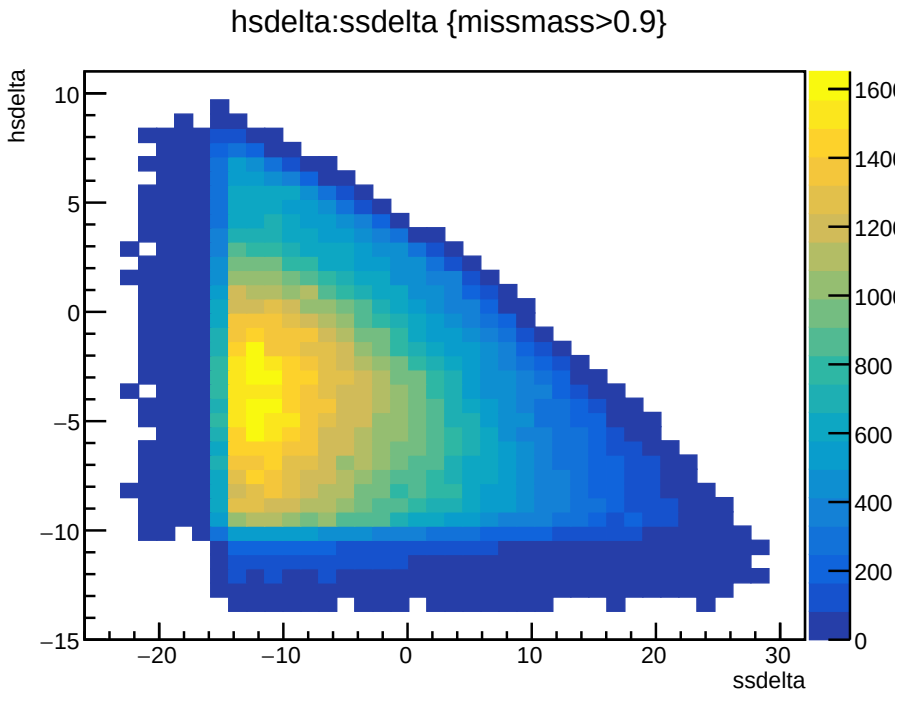
Look for correlations between missmass and acceptance variables

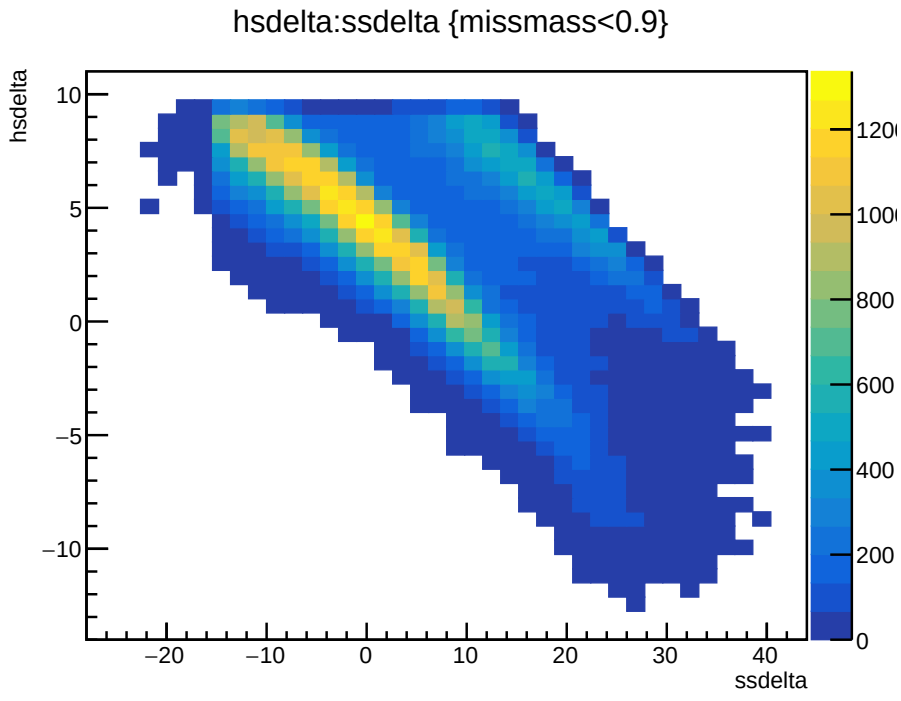
Correlation in ssxpfp



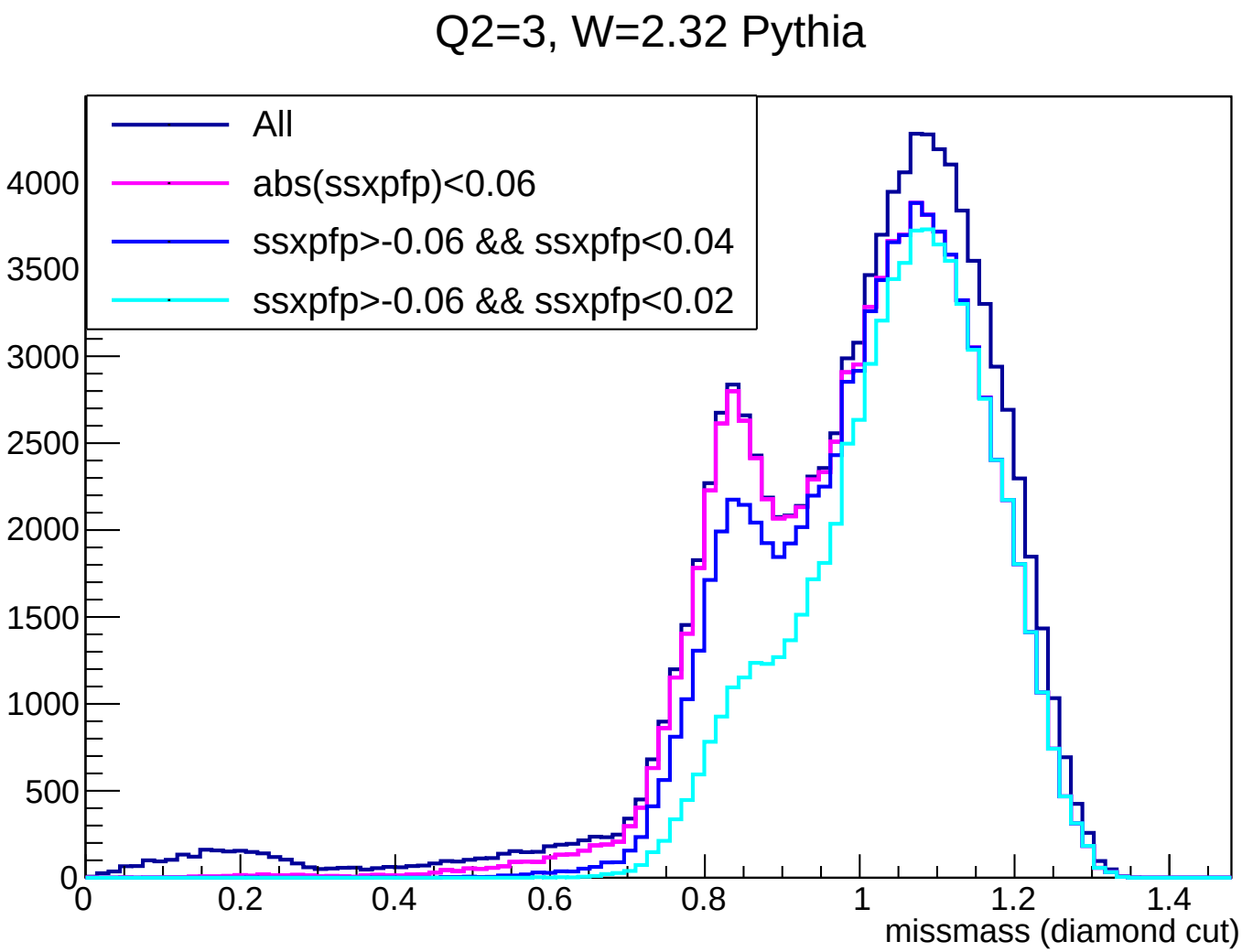


Correlation in delta



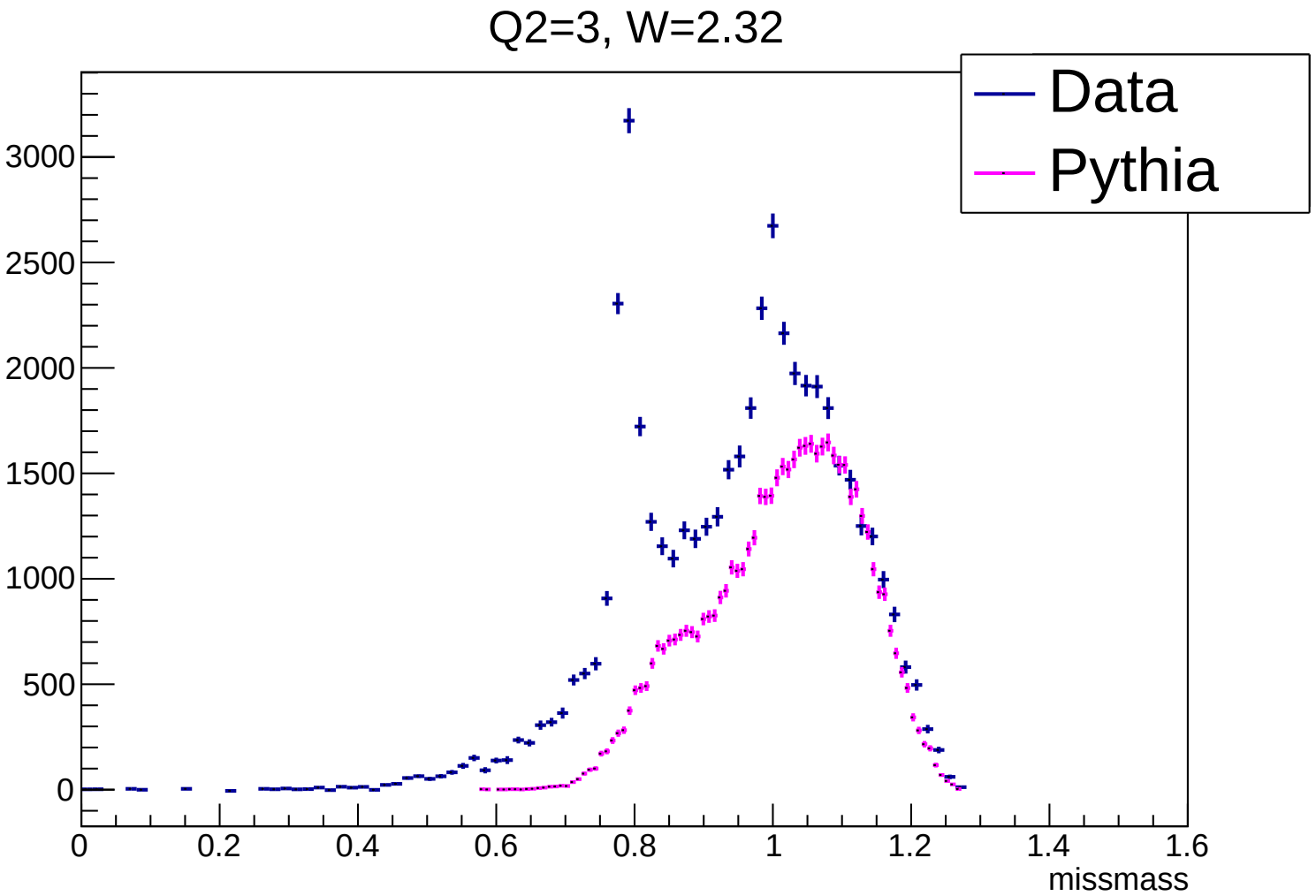


Adjust cut in xpfp?



Compare to Data

Significant improvement when using modified cut on ssxpfp!



Shape Study: Before vs After