

Weekly Report

Yu Zhang

IHEP

February 27, 2017

Correlate the systematic

Correlate the systematics

- Lumi
- theoretical uncertainty e.g. QCD scale and PDF
- experimental uncertainty e.g. photon ID and photon ISO
- technically, rename the nuisance parameters to make it consistent in two channels

Upper limit

There are still problems. It is a surprise that the upper limit with correlated sys(rename the nuisance param) is larger than uncorrelated sys(without rename).

(pb)	$m_H = 260$ GeV	$m_H = 300$ GeV	$m_H = 400$ GeV	$m_H = 500$ GeV	non-resonant
1lep	11.56	9.92	7.03	6.15	6.41
4jet	131.90	121.44	48.76	18.43	47.33
combined(correlated sys)	12.95	10.61	7.65	8.37	7.17
combined(no correlated sys)	11.55	9.91	6.96	15.73	6.34

Example plot

Even though asymptotic is used, the shape is very poor...

