

$e^+e^- \rightarrow \gamma h$ Status

h->bb



h->WW* fully hadronic channel
※cut based analysis only



h->WW* Semi-leptonic

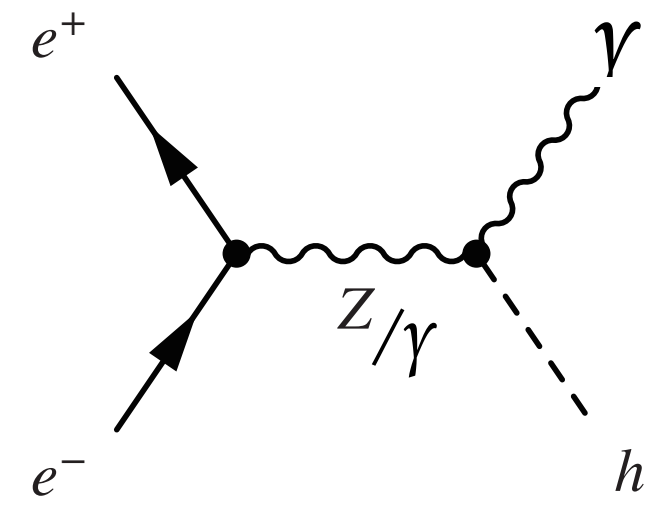


Check dominant background

← Here!



Merge the result of each channels



Dominant Background



Propose : Estimate monte calro fluctuation

1. Dominant background with large weight
→ Calculate fluctuation statistically
2. Remaining # of event is 0, but having large weight
→ Bg suppressed at last cut
might be having fluctuation
→ Calculate upper limit of fluctuation

Dominant Background(WW, sl)



Bg	# of event(2ab ⁻¹ Luminosity integrated)	Weight
4f, Single W, sl	105	13.2
4f, WW, sl	99	24.8
4f, Z, l	58	11.7

Applied cuts

of particle > 1

$90 < E_\gamma < 98$

of charged particle > 1

$105 < m(\gamma qq) < 190$

$|m_{w1} - 80.4| < 10$ GeV or

$-0.9 < \cos\Theta < 0.9$

$|m_{w2} - 80.4| < 9.4$ GeV

$E_{\text{mis}} > 10$

$114 < m(2jlv) < 135$

3

$b_{\text{max}1} < 0.77$

Dominant Background(bb)



Bg	# of event(2ab ⁻¹ Luminosity integrated)	Weight
2f Z, h	19027	86.5
4f, WW, sl	70	4.66
4f, WW, h	60	4.67

mva parameter :

Applied cuts

$b_{max1} > 0.77$

$e_{mis} < 35$

$m_{vabdt} > 0.0126$

higgs mass

angle between gamma & beam

energy of photon,

angle between 2 jets,

smaller angle between jet & photon