

# Michael's Program

$$L = \prod_{i=1}^{34} e^{-\frac{1}{2} \left( \frac{Y_i - Y'_i}{\Delta Y_i} \right)^2}$$

$$\kappa_H = \sum_i \kappa_i^2 \text{Br}_i |_{\text{SM}}$$

- 9 couplings  $\kappa_i$  ---> 9 random numbers.
- $\kappa_W, \kappa_Z$  with up limit 1;  $\text{Br}(\text{inv})$  --> (0,1); others no boundaries.
- event generator -->  $(\kappa_1, \kappa_2, \kappa_3 \dots \kappa_9)$ ; for each event, calculate the likelihood as the weight.
- large statistics --> distribution of each random numbers (p.d.f. of  $\kappa_i$ ) --> give the mean value and 68% interval.

# global fit -- Michael's program + w/ sys error

baseline

luminosity upgrade

250 GeV: 250 fb<sup>-1</sup>  
 500 GeV: 500 fb<sup>-1</sup>  
 1 TeV: 1000 fb<sup>-1</sup>

250 GeV: 1150 fb<sup>-1</sup>  
 500 GeV: 1600 fb<sup>-1</sup>  
 1 TeV: 2500 fb<sup>-1</sup>

MH = 125 GeV  
 P(e-,e+)=(-0.8,+0.3) @ 250, 500 GeV  
 P(e-,e+)=(-0.8,+0.2) @ 1 TeV

coupling $\Delta g / g$	baseline			luminosity upgrade			comparison 250 GeV + 500 GeV + 1 TeV
	250 GeV	250 GeV + 500 GeV	250 GeV + 500 GeV + 1 TeV	250 GeV	250 GeV + 500 GeV	250 GeV + 500 GeV + 1 TeV	
HZZ	0.44%	0.30%	0.28%	0.21%	0.15%	0.14%	0.25%
HWW	1.9%	0.24%	0.13%	1.1%	0.13%	0.077%	0.20%
Hbb	2.8%	0.95%	0.56%	1.4%	0.51%	0.34%	0.36%
Hcc	5.1%	2.6%	1.4%	2.4%	1.3%	0.82%	0.78%
Hgg	3.8%	1.9%	1.1%	2.2%	1.0%	0.68%	0.69%
H $\tau\tau$	3.3%	1.8%	1.2%	1.7%	0.96%	0.72%	0.74%
H $\gamma\gamma$	4.8%	4.2%	3.0%	4.1%	3.2%	2.1%	2.3%
H $\mu\mu$ (*)	-	-	16%	-	-	10%	0.89%
Htt	12%	9.6%	2.9%	12%	6.8%	1.8%	0.87%
$\Gamma_0$	4.7%	1.6%	0.94%	2.6%	0.85%	0.56%	0.79%

(\*) H $\mu\mu$  not included in Michael's program, as same as those from MI fit

$$0 < 1 - \kappa_Z < 0.004$$

$$0 < 1 - \kappa_W < 0.003$$