### 1 By process

1.1  $HH \rightarrow W^+W^-\gamma$ 

			interference		square	
	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1
sm	0	0	0	$7.749 \cdot 10^{-6}$	$7.749 \cdot 10^{-6}$	$-5.162 \cdot 10^{-8}$

1.2  $HH \rightarrow W^+e^-\bar{\nu}_e$ 

1.3  $HH \rightarrow z\nu_e\bar{\nu}_e$ 

1.4  $HH \rightarrow ze^+e^-$ 

1.5  $HW^- \rightarrow \bar{t}b$ 

interference square  $mod1 \quad mod2 \quad 1 - mod2/mod1$  $mod1 \quad mod2 \quad 1 - mod2/mod1$ 0 0 0 1.078 1.078 sm1.6  $HW^- \rightarrow \gamma e^- \bar{\nu}_e$ interference square mod1 mod2  $mod1 \quad mod2 \quad 1 - mod2/mod1$ 1 - mod2/mod10  $5.193 \cdot 10^{-9}$   $5.193 \cdot 10^{-9}$ 0 sm1.7  $HW^- \rightarrow \mu^- \bar{\nu}_{\mu}$ interference square  $mod1 \quad mod2 \quad 1 - mod2/mod1$ mod2 1 - mod2/mod1mod1 $\begin{array}{cccc} 0.003643 & 0.003643 & -2.745 \cdot 10^{-8} \end{array}$ 0 0 0 sm1.8  $Hz \to \mu^{+}\mu^{-}$ interference square  $mod1 \quad mod2 \quad 1 - mod2/mod1$ mod1mod2 1 - mod2/mod10 0 0  $0.0005291 \quad 0.0005291$ sm1.9  $Hz \rightarrow \nu_{\tau}\bar{\nu}_{\tau}$ interference square  $mod1 \quad mod2 \quad 1 - mod2/mod1$ mod2 1 - mod2/mod1mod1

 $0.004086 \quad 0.004086$ 

0

sm

0

1.10  $W^+W^- \to W^+W^-$ 

 $\begin{array}{ccc} & & & \text{interference} \\ & \text{mod1} & \text{mod2} & 1 - \text{mod2/mod1} \\ \text{sm} & 0 & 0 & 0 \end{array}$ 

 $\begin{array}{ccc} & square \\ \bmod{1} & \bmod{2} & 1-\bmod{2}/\bmod{1} \\ 13.37 & 13.37 & -7.479 \cdot 10^{-8} \end{array}$ 

1.11  $W^+W^- \rightarrow \gamma \gamma$ 

 $\begin{array}{cccc} & & & & interference \\ & \bmod 1 & \bmod 2 & 1 - \bmod 2/\bmod 1 \\ & & 0 & 0 & 0 \end{array}$ 

 $\begin{array}{ccc} & square \\ \bmod{1} & \bmod{2} & 1-\bmod{2}/\bmod{1} \\ 38.04 & 38.04 & 7.886 \cdot 10^{-8} \end{array}$ 

1.12  $\gamma W^+ \rightarrow z W^+$ 

 $\begin{array}{ccc} & & & interference \\ & \bmod 1 & \bmod 2 & 1 - \bmod 2/\bmod 1 \\ \operatorname{sm} & 0 & 0 & 0 \end{array}$ 

 $\begin{array}{ccc} & square \\ \bmod{1} & \bmod{2} & 1 - \bmod{2}/\bmod{1} \\ 0.1586 & 0.1586 & 0 \\ \end{array}$ 

1.13  $\mu^{+}\mu^{-} \rightarrow \tau^{+}\tau^{-}$ 

 $\begin{array}{ccc} & & & & interference \\ & \text{mod1} & \text{mod2} & 1 - \text{mod2/mod1} \\ \text{sm} & 0 & 0 & 0 \end{array}$ 

 $\begin{array}{ccc} & square \\ \text{mod1} & \text{mod2} & 1-\text{mod2/mod1} \\ 0.01615 & 0.01615 & 6.193 \cdot 10^{-8} \end{array}$ 

1.14  $\nu_{\tau}\bar{\nu}_{\tau} \rightarrow \nu_{\tau}\bar{\nu}_{\tau}$ 

 $\begin{array}{ccc} & & interference \\ \texttt{mod1} & \texttt{mod2} & 1 - \texttt{mod2/mod1} \end{array}$ 

 $\begin{array}{cc} \mathrm{square} \\ \mathrm{mod1} & \mathrm{mod2} & 1-\mathrm{mod2/mod1} \end{array}$ 

 $\mathtt{sm} \qquad 0 \qquad 0 \qquad \qquad 0 \qquad \qquad 0.006374 \quad 0.006374 \qquad \qquad 0$ 

# 1.15 $\nu_e \bar{\nu}_e \rightarrow \nu_\mu \bar{\nu}_\mu$

			interference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
sm	0	0	0	0.0002205	0.0002205	0		

# **1.16** $b\bar{b} \rightarrow \nu_{\mu}\bar{\nu}_{\mu}$

		interfer	rence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
cQl1	$-9.452 \cdot 10^{-7}$	$-9.452 \cdot 10^{-7}$	$-3.174 \cdot 10^{-8}$	$5.406 \cdot 10^{-6}$	$5.406 \cdot 10^{-6}$	0		
cQ13	$9.452 \cdot 10^{-7}$	$9.452 \cdot 10^{-7}$	$-3.174 \cdot 10^{-8}$	$5.406 \cdot 10^{-6}$	$5.406 \cdot 10^{-6}$	0		
sm	0	0	0	0.0001536	0.0001536	$1.302 \cdot 10^{-7}$		

# 1.17 $b\bar{t} \rightarrow e^-\bar{\nu}_e$

			interference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cQ13	0.0472	0.0472	$-2.119 \cdot 10^{-8}$	0.2231	0.2231	0		
cleQt1Im	0	0	0	0.08333	0.08333	$-3.06 \cdot 10^{-6}$		
cleQt1Re	0	0	0	0.08333	0.08333	$-3.06 \cdot 10^{-6}$		
cleQt3Im	0	0	0	0.09096	0.09096	$-3.056 \cdot 10^{-6}$		
cleQt3Re	0	0	0	0.09096	0.09096	$-3.056 \cdot 10^{-6}$		
${\tt clebQIm}$	0	0	0	0.08333	0.08333	$-3.06 \cdot 10^{-6}$		
clebQRe	0	0	0	0.08333	0.08333	$-3.06 \cdot 10^{-6}$		
sm	0	0	0	0.002496	0.002496	$-4.006 \cdot 10^{-8}$		

**1.18**  $c\bar{c} \to \mu^{+}\mu^{-}$ 

1.19  $c\bar{s} \rightarrow \tau^+ \nu_{\tau}$ 

**1.20**  $d\bar{d} \to e^+e^-$ 

**1.21**  $e^+\nu_{\mu} \to e^+\nu_{\mu}$ 

**1.22**  $e^+\nu_e \to \mu^+\nu_\mu$ 

sm 0 0

 $0.02182 \quad 0.02182 \quad -4.583 \cdot 10^{-8}$ 

1.23  $e^+\nu_e \to e^+\nu_e$ 

interference

 $\begin{array}{ccc} & \text{mod1} & \text{mod2} & 1 - \text{mod2/mod1} \\ 0 & 0 & 0 \end{array}$ 

square

 $\begin{array}{cccc} \bmod 1 & \bmod 2 & 1-\bmod 2/\bmod 1 \\ 0.03333 & 0.03333 & 0 \end{array}$ 

1.24  $e^+\tau^- \to e^+\tau^-$ 

sm

interference

square

 $\begin{array}{cccc} \bmod 1 & \bmod 2 & 1-\bmod 2/\bmod 1 \\ 0.04975 & 0.04975 & 8.04\cdot 10^{-8} \end{array}$ 

1.25  $e^+e^- \to \mu^+\mu^-$ 

interference

square

 $\begin{array}{cccc} \bmod 1 & \bmod 2 & 1-\bmod 2/\bmod 1 \\ 0.01636 & 0.01636 & 6.113\cdot 10^{-8} \end{array}$ 

1.26  $e^+e^- \rightarrow e^+e^-$ 

sm

interference

square

 $\begin{array}{cccc} \bmod 1 & \bmod 2 & 1-\bmod 2/\bmod 1 \\ 0.3374 & 0.3374 & 5.927 \cdot 10^{-8} \end{array}$ 

1.27  $s\bar{s} \rightarrow \nu_{\tau}\bar{\nu}_{\tau}$ 

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### 1.28 $t\bar{t} \rightarrow \tau^+\tau^-$

		interfere		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cQe	-0.002551	-0.002551	$7.84 \cdot 10^{-8}$	0.0205	0.0205	0	
cQl1	-0.04816	-0.04816	$-2.076 \cdot 10^{-8}$	0.2036	0.2036	0	
cQ13	0.04816	0.04816	$-2.076 \cdot 10^{-8}$	0.2036	0.2036	0	
cleQt1Im	$2.216 \cdot 10^{-18}$	$-1.542 \cdot 10^{-18}$	1.696	0.1668	0.1668	$-3.057 \cdot 10^{-6}$	
cleQt1Re	0.1592	0.1592	$-1.507 \cdot 10^{-6}$	0.1668	0.1668	$-3.057 \cdot 10^{-6}$	
cleQt3Im	$-3.012 \cdot 10^{-18}$	$-3.103 \cdot 10^{-17}$	-9.305	0.917	0.917	$-3.064 \cdot 10^{-6}$	
cleQt3Re	-0.3707	-0.3707	$-1.51 \cdot 10^{-6}$	0.917	0.917	$-3.054 \cdot 10^{-6}$	
cte	-0.03529	-0.03529	$5.667 \cdot 10^{-8}$	0.2036	0.2036	0	
ctl	-0.004037	-0.004037	0	0.0205	0.0205	0	
sm	0	0	0	0.004439	0.004439	$2.253 \cdot 10^{-8}$	

### 1.29 $t\bar{t} \rightarrow t\bar{t}$

# 1.30 $u\bar{d} \rightarrow \mu^+\nu_\mu$

interference square

1.31  $u\bar{u} \rightarrow \nu_e \bar{\nu}_e$ 

1.32  $zz \to W^+W^-$ 

### 2 By parameter point

#### 2.1 cQe

#### 2.2 cQl1

 $t\bar{t} \to \tau^+ \tau^-$  -0.04816 -0.04816  $-2.076 \cdot 10^{-8}$  0.2036 0.2036

# 2.3 cQl3

		interf	erence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
$b\bar{b}  o  u_{\mu} \bar{ u}_{\mu}$	$9.452 \cdot 10^{-7}$	$9.452 \cdot 10^{-7}$	$-3.174 \cdot 10^{-8}$	$5.406 \cdot 10^{-6}$	$5.406 \cdot 10^{-6}$	0		
$b\bar{t} \to e^- \bar{\nu}_e$	0.0472	0.0472	$-2.119 \cdot 10^{-8}$	0.2231	0.2231	0		
$t\bar{t} \to \tau^+ \tau^-$	0.04816	0.04816	$-2.076 \cdot 10^{-8}$	0.2036	0.2036	0		

# 2.4 cleQt1Im

		interfer		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$b\bar{t} \to e^- \bar{\nu}_e$	0	0	0	0.08333	0.08333	$-3.06 \cdot 10^{-6}$
$t\bar{t} \to \tau^+ \tau^-$	$2.216 \cdot 10^{-18}$	$-1.542 \cdot 10^{-18}$	1.696	0.1668	0.1668	$-3.057 \cdot 10^{-6}$

# 2.5 cleQt1Re

		j	interference	square
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  & \verb mod2  & 1-\verb mod2/mod1 $
$b\bar{t} \to e^- \bar{\nu}_e$	0	0	0	$0.08333  0.08333  -3.06 \cdot 10^{-6}$
$t\bar{t} \to \tau^+ \tau^-$	0.1592	0.1592	$-1.507 \cdot 10^{-6}$	$0.1668  0.1668  -3.057 \cdot 10^{-6}$

# 2.6 cleQt3Im

### 2.7 cleQt3Re

		in	terference		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$b\bar{t} \to e^- \bar{\nu}_e$	0	0	0	0.09096	0.09096	$-3.056 \cdot 10^{-6}$	
$t\bar{t} \to \tau^+ \tau^-$	-0.3707	-0.3707	$-1.51 \cdot 10^{-6}$	0.917	0.917	$-3.054 \cdot 10^{-6}$	

### 2.8 clebQIm

### 2.9 clebQRe

#### 2.10 cte

# 2.11 ctl

		inter	rference		squ	ıare
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1
$t\bar{t} \to \tau^+ \tau^-$	-0.004037	-0.004037	0	0.0205	0.0205	0

### 2.12 sm

			interference		square	
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH \to W^+W^-\gamma$	0	0	0	$7.749 \cdot 10^{-6}$	$7.749 \cdot 10^{-6}$	$-5.162 \cdot 10^{-8}$
$HH  o W^+ e^- \bar{\nu}_e$	0	0	0	$2.693 \cdot 10^{-7}$	$2.693 \cdot 10^{-7}$	$-3.713 \cdot 10^{-8}$
$HH \to z \nu_e \bar{\nu}_e$	0	0	0	$1.217 \cdot 10^{-7}$	$1.217 \cdot 10^{-7}$	0
$HH \rightarrow ze^+e^-$	0	0	0	$9.456 \cdot 10^{-8}$	$9.456 \cdot 10^{-8}$	$-1.058 \cdot 10^{-8}$
$HW^- \to \bar{t}b$	0	0	0	1.078	1.078	0
$HW^- \to \gamma e^- \bar{\nu}_e$	0	0	0	$5.193 \cdot 10^{-9}$	$5.193 \cdot 10^{-9}$	0
$HW^-  o \mu^- \bar{\nu}_\mu$	0	0	0	0.003643	0.003643	$-2.745 \cdot 10^{-8}$
$Hz \to \mu^+\mu^-$	0	0	0	0.0005291	0.0005291	0
$Hz \to \nu_{ au} \bar{\nu}_{ au}$	0	0	0	0.004086	0.004086	0
$W^+W^- \to W^+W^-$	0	0	0	13.37	13.37	$-7.479 \cdot 10^{-8}$
$W^+W^-  o \gamma\gamma$	0	0	0	38.04	38.04	$7.886 \cdot 10^{-8}$
$\gamma W^+ \to z W^+$	0	0	0	0.1586	0.1586	0
$\mu^+\mu^- \to \tau^+\tau^-$	0	0	0	0.01615	0.01615	$6.193 \cdot 10^{-8}$
$\nu_{ au} \bar{\nu}_{ au}  ightarrow \nu_{ au} \bar{\nu}_{ au}$	0	0	0	0.006374	0.006374	0
$ u_e \bar{\nu}_e  o  u_\mu \bar{\nu}_\mu$	0	0	0	0.0002205	0.0002205	0
$b\bar{b}  o  u_{\mu} \bar{ u}_{\mu}$	0	0	0	0.0001536	0.0001536	$1.302 \cdot 10^{-7}$
$b\bar{t} \to e^-\bar{\nu}_e$	0	0	0	0.002496	0.002496	$-4.006 \cdot 10^{-8}$
$c\bar{c} \to \mu^+ \mu^-$	0	0	0	0.006224	0.006224	$3.214 \cdot 10^{-8}$
$c\bar{s} \to \tau^+ \nu_{\tau}$	0	0	0	0.01364	0.01364	0

$d\bar{d} \to e^+ e^-$	0	0	0	0.001182	0.001182	0
$e^+\nu_\mu \to e^+\nu_\mu$	0	0	0	1.42	1.42	0
$e^+\nu_e \to \mu^+\nu_\mu$	0	0	0	0.02182	0.02182	$-4.583 \cdot 10^{-8}$
$e^+\nu_e \to e^+\nu_e$	0	0	0	0.03333	0.03333	0
$e^+\tau^- \to e^+\tau^-$	0	0	0	0.04975	0.04975	$8.04 \cdot 10^{-8}$
$e^+e^- \to \mu^+\mu^-$	0	0	0	0.01636	0.01636	$6.113 \cdot 10^{-8}$
$e^+e^- \rightarrow e^+e^-$	0	0	0	0.3374	0.3374	$5.927 \cdot 10^{-8}$
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	0	0	0	0.002794	0.002794	$-3.579 \cdot 10^{-8}$
$t\bar{t} \to \tau^+ \tau^-$	0	0	0	0.004439	0.004439	$2.253 \cdot 10^{-8}$
$t\bar{t} \to t\bar{t}$	0	0	0	5.516	5.516	0
$u\bar{d} \to \mu^+ \nu_\mu$	0	0	0	$2.599 \cdot 10^{-5}$	$2.599 \cdot 10^{-5}$	$-3.848 \cdot 10^{-8}$
$u\bar{u} \to \nu_e \bar{\nu}_e$	0	0	0	0.001555	0.001555	$-6.43 \cdot 10^{-8}$
$zz \to W^+W^-$	0	0	0	33.18	33.18	$-6.028 \cdot 10^{-8}$