## 1 By process

### $\textbf{1.1} \quad HH \rightarrow HH$

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
сН	-1.38	-1.38	0	2.161	2.161	0		
cHDD	-0.1147	-0.1147	0	0.01484	0.01484	0		
cH13	-0.05346	-0.05346	0	0.003241	0.003241	0		
cll1	0.02673	0.02673	0	0.0008103	0.0008103	0		
sm	0	0	0	0.2209	0.2209	0		

### $\textbf{1.2} \quad HH \rightarrow HHH$

		interfer	rence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$	
сН	$5.012 \cdot 10^{-6}$	$5.012 \cdot 10^{-6}$	0	$6.38 \cdot 10^{-5}$	$6.38 \cdot 10^{-5}$	0	
cHDD	$-2.995 \cdot 10^{-7}$	$-2.995 \cdot 10^{-7}$	0	$6.962 \cdot 10^{-7}$	$6.962 \cdot 10^{-7}$	0	
cH13	$-3.58 \cdot 10^{-8}$	$-3.58 \cdot 10^{-8}$	0	$3.256 \cdot 10^{-9}$	$3.256 \cdot 10^{-9}$	0	
cll1	$1.79 \cdot 10^{-8}$	$1.79 \cdot 10^{-8}$	0	$8.139 \cdot 10^{-10}$	$8.139 \cdot 10^{-10}$	0	
sm	0	0	0	$9.867 \cdot 10^{-9}$	$9.867 \cdot 10^{-9}$	0	

### 1.3 $HH \rightarrow H\tau^+\tau^-$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	$-3.542 \cdot 10^{-10}$	$-3.542 \cdot 10^{-10}$	0	$1.516 \cdot 10^{-9}$	$1.516 \cdot 10^{-9}$	0
cHDD	$1.014 \cdot 10^{-11}$	$1.014 \cdot 10^{-11}$	0	$6.514 \cdot 10^{-13}$	$6.514 \cdot 10^{-13}$	0
cH13	$-7.532 \cdot 10^{-12}$	$-7.532 \cdot 10^{-12}$	0	$6.85 \cdot 10^{-13}$	$6.85 \cdot 10^{-13}$	0

ceHIm	$-3.209 \cdot 10^{-13}$	$-3.209 \cdot 10^{-13}$	$3.054 \cdot 10^{-6}$	$1.673 \cdot 10^{-10}$	$1.673 \cdot 10^{-10}$	$6.097 \cdot 10^{-6}$
ceHRe	$-9.046 \cdot 10^{-11}$	$-9.046 \cdot 10^{-11}$	$3.051 \cdot 10^{-6}$	$5.225 \cdot 10^{-11}$	$5.225 \cdot 10^{-11}$	$6.106 \cdot 10^{-6}$
cll1	$3.766 \cdot 10^{-12}$	$3.766 \cdot 10^{-12}$	0	$1.712 \cdot 10^{-13}$	$1.712 \cdot 10^{-13}$	0
$\mathtt{sm}$	0	0	0	$1.715 \cdot 10^{-11}$	$1.715 \cdot 10^{-11}$	0

## **1.4** $HH \rightarrow Hb\bar{b}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$
сН	$-3.059 \cdot 10^{-9}$	$-3.059 \cdot 10^{-9}$	0	$9.146 \cdot 10^{-9}$	$9.146 \cdot 10^{-9}$	0
cHDD	$-8.778 \cdot 10^{-10}$	$-8.778 \cdot 10^{-10}$	0	$3.024 \cdot 10^{-10}$	$3.024 \cdot 10^{-10}$	0
cH13	$-9.766 \cdot 10^{-11}$	$-9.766 \cdot 10^{-11}$	0	$8.88 \cdot 10^{-12}$	$8.88 \cdot 10^{-12}$	0
$\mathtt{cbHIm}$	$-6.92 \cdot 10^{-10}$	$-6.92 \cdot 10^{-10}$	0	$5.198 \cdot 10^{-6}$	$5.198 \cdot 10^{-6}$	0
cbHRe	$-1.595 \cdot 10^{-8}$	$-1.595 \cdot 10^{-8}$	0	$8.93 \cdot 10^{-7}$	$8.93 \cdot 10^{-7}$	0
cll1	$4.883 \cdot 10^{-11}$	$4.883 \cdot 10^{-11}$	0	$2.22 \cdot 10^{-12}$	$2.22 \cdot 10^{-12}$	0
sm	0	0	0	$6.594 \cdot 10^{-10}$	$6.594 \cdot 10^{-10}$	0

## 1.5 $HH \rightarrow Hs\bar{s}$

		interfere	ence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$-2.335 \cdot 10^{-11}$	$-2.335 \cdot 10^{-11}$	0	$3.829 \cdot 10^{-11}$	$3.829 \cdot 10^{-11}$	0	
cHDD	$-8.827 \cdot 10^{-10}$	$-8.827 \cdot 10^{-10}$	0	$1.228 \cdot 10^{-10}$	$1.228 \cdot 10^{-10}$	0	
cHl3	$-1.295 \cdot 10^{-12}$	$-1.295 \cdot 10^{-12}$	0	$1.178 \cdot 10^{-13}$	$1.178 \cdot 10^{-13}$	0	
cdHIm	$-1.926 \cdot 10^{-18}$	$-1.926 \cdot 10^{-18}$	$3.115 \cdot 10^{-7}$	$8.181 \cdot 10^{-13}$	$8.181 \cdot 10^{-13}$	$6.356 \cdot 10^{-7}$	
cdHRe	$-1.123 \cdot 10^{-12}$	$-1.123 \cdot 10^{-12}$	$3.563 \cdot 10^{-7}$	$1.218 \cdot 10^{-12}$	$1.218 \cdot 10^{-12}$	$6.57 \cdot 10^{-7}$	
cll1	$6.476 \cdot 10^{-13}$	$6.476 \cdot 10^{-13}$	0	$2.944 \cdot 10^{-14}$	$2.944 \cdot 10^{-14}$	0	
$\mathtt{sm}$	0	0	0	$2.588 \cdot 10^{-13}$	$2.588 \cdot 10^{-13}$	0	

#### 1.6 $HH \rightarrow Ht\bar{t}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$1.495 \cdot 10^{-5}$	$1.495 \cdot 10^{-5}$	0	$3.189 \cdot 10^{-5}$	$3.189 \cdot 10^{-5}$	0	
cHDD	$1.42 \cdot 10^{-5}$	$1.42 \cdot 10^{-5}$	0	$1.513 \cdot 10^{-6}$	$1.513 \cdot 10^{-6}$	0	
cHl3	$-5.918 \cdot 10^{-6}$	$-5.918 \cdot 10^{-6}$	0	$5.382 \cdot 10^{-7}$	$5.382 \cdot 10^{-7}$	0	
cll1	$2.959 \cdot 10^{-6}$	$2.959 \cdot 10^{-6}$	0	$1.345 \cdot 10^{-7}$	$1.345 \cdot 10^{-7}$	0	
$\mathtt{ctHIm}$	$3.156 \cdot 10^{-6}$	$3.156 \cdot 10^{-6}$	0	$4.11 \cdot 10^{-5}$	$4.11\cdot 10^{-5}$	0	
ctHRe	$5.331 \cdot 10^{-5}$	$5.331 \cdot 10^{-5}$	0	$3.133 \cdot 10^{-5}$	$3.133 \cdot 10^{-5}$	0	
sm	0	0	0	$4.489 \cdot 10^{-5}$	$4.489 \cdot 10^{-5}$	0	

#### 1.7 $HH \rightarrow Hu\bar{u}$

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$-1.626 \cdot 10^{-15}$	$-1.626 \cdot 10^{-15}$	0	$3.371 \cdot 10^{-15}$	$3.371 \cdot 10^{-15}$	0	
cHDD	$-3.957 \cdot 10^{-17}$	$-3.957 \cdot 10^{-17}$	0	$3.357 \cdot 10^{-17}$	$3.357 \cdot 10^{-17}$	0	
cHl3	$-7.13 \cdot 10^{-17}$	$-7.13 \cdot 10^{-17}$	0	$6.484 \cdot 10^{-18}$	$6.484 \cdot 10^{-18}$	0	
cll1	$3.565 \cdot 10^{-17}$	$3.565 \cdot 10^{-17}$	0	$1.621 \cdot 10^{-18}$	$1.621 \cdot 10^{-18}$	0	
cuHIm	$-5.4 \cdot 10^{-26}$	$-5.4 \cdot 10^{-26}$	$-1.111 \cdot 10^{-7}$	$5.575 \cdot 10^{-16}$	$5.575 \cdot 10^{-16}$	$-1.435 \cdot 10^{-6}$	
cuHRe	$-8.2 \cdot 10^{-17}$	$-8.2 \cdot 10^{-17}$	$-7.195 \cdot 10^{-7}$	$5.779 \cdot 10^{-17}$	$5.779 \cdot 10^{-17}$	$-1.453 \cdot 10^{-6}$	
sm	0	0	0	$2.909 \cdot 10^{-17}$	$2.909 \cdot 10^{-17}$	0	

#### 1.8 $HH \rightarrow Hzz$

	1 21 4 10-6	1 014 10-6	0	<b>7</b> 202 10-7	<b>7</b> 000 10-7	0
сНВ	$1.214 \cdot 10^{-6}$	$1.214 \cdot 10^{-6}$	0	$7.292 \cdot 10^{-7}$	$7.292 \cdot 10^{-6}$	0
cHBtil	$5.755 \cdot 10^{-7}$	$5.755 \cdot 10^{-7}$	0	$1.795 \cdot 10^{-7}$	$1.795 \cdot 10^{-7}$	0
cHDD	$-4.747 \cdot 10^{-6}$	$-4.747 \cdot 10^{-6}$	0	$1.683 \cdot 10^{-6}$	$1.683 \cdot 10^{-6}$	0
cHW	$5.342 \cdot 10^{-6}$	$5.342 \cdot 10^{-6}$	0	$7.476 \cdot 10^{-6}$	$7.476 \cdot 10^{-6}$	0
cHWB	$7.981 \cdot 10^{-6}$	$7.981 \cdot 10^{-6}$	0	$1.263 \cdot 10^{-5}$	$1.263 \cdot 10^{-5}$	0
cHWBtil	$-2.559 \cdot 10^{-6}$	$-2.559 \cdot 10^{-6}$	0	$6.317 \cdot 10^{-7}$	$6.317 \cdot 10^{-7}$	0
cHWtil	$-9.66 \cdot 10^{-7}$	$-9.66 \cdot 10^{-7}$	0	$2.931 \cdot 10^{-6}$	$2.931 \cdot 10^{-6}$	0
cH13	$-1.117 \cdot 10^{-5}$	$-1.117 \cdot 10^{-5}$	0	$1.016 \cdot 10^{-6}$	$1.016 \cdot 10^{-6}$	0
cll1	$5.587 \cdot 10^{-6}$	$5.587 \cdot 10^{-6}$	0	$2.54 \cdot 10^{-7}$	$2.54 \cdot 10^{-7}$	0
sm	0	0	0	0.0001074	0.0001074	0

### **1.9** $HH \to W^+W^-$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	0.7027	0.7027	0	0.1331	0.1331	0	
cHDD	4.086	4.086	0	0.07824	0.07824	0	
cHW	0.1118	0.1118	0	9.088	9.088	0	
cHWtil	$1.172 \cdot 10^{-15}$	$1.172 \cdot 10^{-15}$	0	9.115	9.115	0	
cH13	-0.2485	-0.2485	0	0.01506	0.01506	0	
cll1	0.1242	0.1242	0	0.003766	0.003766	0	
$\mathtt{sm}$	0	0	0	37.53	37.53	0	

## $\textbf{1.10} \quad HH \rightarrow W^+W^-\gamma$

		interfer	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
сН	$-1.065 \cdot 10^{-7}$	$-1.065 \cdot 10^{-7}$	0	$3.074 \cdot 10^{-8}$	$3.074 \cdot 10^{-8}$	0		
сНВ	$-1.09 \cdot 10^{-6}$	$-1.09 \cdot 10^{-6}$	0	$1.219 \cdot 10^{-6}$	$1.219 \cdot 10^{-6}$	0		

cHBtil	$-2.505 \cdot 10^{-8}$	$-2.505 \cdot 10^{-8}$	0	$1.324 \cdot 10^{-7}$	$1.324 \cdot 10^{-7}$	0
cHDD	$-3.1\cdot10^{-7}$	$-3.1\cdot10^{-7}$	0	$2.417 \cdot 10^{-7}$	$2.417\cdot10^{-7}$	0
cHW	$-1.557 \cdot 10^{-6}$	$-1.557 \cdot 10^{-6}$	0	0.0001216	0.0001216	0
cHWB	$-9.065 \cdot 10^{-6}$	$-9.065 \cdot 10^{-6}$	0	$5.4 \cdot 10^{-6}$	$5.4 \cdot 10^{-6}$	0
cHWBtil	$-2.225 \cdot 10^{-8}$	$-2.225 \cdot 10^{-8}$	0	$1.513 \cdot 10^{-6}$	$1.513 \cdot 10^{-6}$	0
cHWtil	$3.989 \cdot 10^{-9}$	$3.989 \cdot 10^{-9}$	0	0.0003428	0.0003428	0
cH13	$-6.879 \cdot 10^{-8}$	$-6.879 \cdot 10^{-8}$	0	$6.255 \cdot 10^{-9}$	$6.255 \cdot 10^{-9}$	0
cW	$-1.323 \cdot 10^{-7}$	$-1.323 \cdot 10^{-7}$	0	$8.133 \cdot 10^{-7}$	$8.133 \cdot 10^{-7}$	0
cWtil	$-5.691 \cdot 10^{-8}$	$-5.691 \cdot 10^{-8}$	0	$8.039 \cdot 10^{-7}$	$8.039 \cdot 10^{-7}$	0
cll1	$3.439 \cdot 10^{-8}$	$3.439 \cdot 10^{-8}$	0	$1.564 \cdot 10^{-9}$	$1.564 \cdot 10^{-9}$	0
sm	0	0	0	$1.987 \cdot 10^{-6}$	$1.987 \cdot 10^{-6}$	0

## 1.11 $HH \rightarrow W^+ \bar{t} b$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$1.17 \cdot 10^{-6}$	$1.17\cdot 10^{-6}$	0	$1.615 \cdot 10^{-6}$	$1.615 \cdot 10^{-6}$	0	
cHDD	$1.795 \cdot 10^{-5}$	$1.795 \cdot 10^{-5}$	0	$1.649 \cdot 10^{-6}$	$1.649 \cdot 10^{-6}$	0	
cHQ3	$7.003 \cdot 10^{-6}$	$7.003 \cdot 10^{-6}$	0	$2.6 \cdot 10^{-6}$	$2.6 \cdot 10^{-6}$	0	
cHW	$-4.271 \cdot 10^{-6}$	$-4.271 \cdot 10^{-6}$	0	$6.523 \cdot 10^{-6}$	$6.523 \cdot 10^{-6}$	0	
cHWtil	$4.498 \cdot 10^{-6}$	$4.498 \cdot 10^{-6}$	0	$8.323 \cdot 10^{-5}$	$8.323 \cdot 10^{-5}$	0	
cH13	$-7.769 \cdot 10^{-7}$	$-7.769 \cdot 10^{-7}$	0	$7.065 \cdot 10^{-8}$	$7.065 \cdot 10^{-8}$	0	
$\mathtt{cHtbIm}$	$2.544 \cdot 10^{-8}$	$2.544 \cdot 10^{-8}$	0	$8.922 \cdot 10^{-6}$	$8.922 \cdot 10^{-6}$	0	
cHtbRe	$-4.021 \cdot 10^{-6}$	$-4.021 \cdot 10^{-6}$	0	$3.366 \cdot 10^{-5}$	$3.366 \cdot 10^{-5}$	0	
$\mathtt{cbHIm}$	$-3.993 \cdot 10^{-6}$	$-3.993 \cdot 10^{-6}$	0	0.0002108	0.0002108	0	
cbHRe	$-6.998 \cdot 10^{-6}$	$-6.998 \cdot 10^{-6}$	0	$2.573 \cdot 10^{-5}$	$2.573 \cdot 10^{-5}$	0	
$\mathtt{cbWIm}$	$4.74 \cdot 10^{-6}$	$4.74 \cdot 10^{-6}$	0	$5.004 \cdot 10^{-5}$	$5.004 \cdot 10^{-5}$	0	
cbWRe	$5.169 \cdot 10^{-7}$	$5.169 \cdot 10^{-7}$	0	$2.396 \cdot 10^{-5}$	$2.396 \cdot 10^{-5}$	0	
cll1	$3.884 \cdot 10^{-7}$	$3.884 \cdot 10^{-7}$	0	$1.766 \cdot 10^{-8}$	$1.766 \cdot 10^{-8}$	0	
$\mathtt{ctHIm}$	$1.612 \cdot 10^{-6}$	$1.612 \cdot 10^{-6}$	0	$1.965 \cdot 10^{-5}$	$1.965 \cdot 10^{-5}$	0	

ctHRe	0.001331	0.001331	0	$0.0004963 \qquad 0.0004963$	0
$\mathtt{ctWIm}$	$-2.586 \cdot 10^{-5}$	$-2.586 \cdot 10^{-5}$	0	$2.952 \cdot 10^{-5}$ $2.952 \cdot 10^{-5}$	0
ctWRe	$1.297 \cdot 10^{-5}$	$1.297 \cdot 10^{-5}$	0	$6.254 \cdot 10^{-5}$ $6.254 \cdot 10^{-5}$	0
$\mathtt{sm}$	0	0	0	$5.794 \cdot 10^{-5}$ $5.794 \cdot 10^{-5}$	0

## **1.12** $HH \to W^+ e^- \bar{\nu}_e$

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$		
cН	$3.386 \cdot 10^{-8}$	$3.386 \cdot 10^{-8}$	0	$5.149 \cdot 10^{-10}$	$5.149 \cdot 10^{-10}$	0		
cHDD	$-1.949 \cdot 10^{-8}$	$-1.949 \cdot 10^{-8}$	0	$1.651 \cdot 10^{-8}$	$1.651 \cdot 10^{-8}$	0		
cHW	$4.322 \cdot 10^{-7}$	$4.322 \cdot 10^{-7}$	0	$1.382 \cdot 10^{-6}$	$1.382 \cdot 10^{-6}$	0		
cHWtil	$-5.819 \cdot 10^{-7}$	$-5.819 \cdot 10^{-7}$	0	$6.171 \cdot 10^{-6}$	$6.171 \cdot 10^{-6}$	0		
cH13	$2.442 \cdot 10^{-6}$	$2.442 \cdot 10^{-6}$	0	$1.971 \cdot 10^{-6}$	$1.971 \cdot 10^{-6}$	0		
$\mathtt{ceHIm}$	$2.141 \cdot 10^{-17}$	$2.141 \cdot 10^{-17}$	$-1.634 \cdot 10^{-6}$	$5.395 \cdot 10^{-18}$	$5.395 \cdot 10^{-18}$	$-3.225 \cdot 10^{-6}$		
ceHRe	$-2.273 \cdot 10^{-18}$	$-2.273 \cdot 10^{-18}$	$-1.584 \cdot 10^{-6}$	$1.451 \cdot 10^{-18}$	$1.451 \cdot 10^{-18}$	$-3.239 \cdot 10^{-6}$		
$\mathtt{ceWIm}$	$-8.153 \cdot 10^{-18}$	$-8.153 \cdot 10^{-18}$	$-1.607 \cdot 10^{-6}$	$4.23 \cdot 10^{-18}$	$4.23 \cdot 10^{-18}$	$-3.215 \cdot 10^{-6}$		
ceWRe	$-7.857 \cdot 10^{-18}$	$-7.857 \cdot 10^{-18}$	$-1.604 \cdot 10^{-6}$	$3.368 \cdot 10^{-19}$	$3.368 \cdot 10^{-19}$	$-3.206 \cdot 10^{-6}$		
cll1	$1.376 \cdot 10^{-7}$	$1.376 \cdot 10^{-7}$	0	$6.255 \cdot 10^{-9}$	$6.255 \cdot 10^{-9}$	0		
sm	0	0	0	$7.203 \cdot 10^{-7}$	$7.203 \cdot 10^{-7}$	0		

## 1.13 $HH \rightarrow W^- u \bar{d}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	$6.132 \cdot 10^{-9}$	$6.132 \cdot 10^{-9}$	0	$1.512 \cdot 10^{-10}$	$1.512 \cdot 10^{-10}$	0
cHDD	$-1.618 \cdot 10^{-7}$	$-1.618 \cdot 10^{-7}$	0	$2.244 \cdot 10^{-9}$	$2.244 \cdot 10^{-9}$	0
cHW	$-4.38 \cdot 10^{-7}$	$-4.38 \cdot 10^{-7}$	0	$1.564 \cdot 10^{-6}$	$1.564 \cdot 10^{-6}$	0
cHWtil	$3.396 \cdot 10^{-6}$	$3.396 \cdot 10^{-6}$	0	$2.167 \cdot 10^{-5}$	$2.167 \cdot 10^{-5}$	0

сНј3	$5.51\cdot10^{-5}$	$5.51\cdot10^{-5}$	0	0.0001645	0.0001645	0
cH13	$-2.466 \cdot 10^{-7}$	$-2.466 \cdot 10^{-7}$	0	$2.243 \cdot 10^{-8}$	$2.243 \cdot 10^{-8}$	0
$\mathtt{cHudIm}$	$-3.941 \cdot 10^{-25}$	$-3.941 \cdot 10^{-25}$	$-1.32 \cdot 10^{-6}$	$3.015 \cdot 10^{-25}$	$3.015 \cdot 10^{-25}$	$-2.686 \cdot 10^{-6}$
cHudRe	$-3.01 \cdot 10^{-23}$	$-3.01 \cdot 10^{-23}$	$-1.329 \cdot 10^{-6}$	$4.599 \cdot 10^{-24}$	$4.599 \cdot 10^{-24}$	$-2.675 \cdot 10^{-6}$
$\mathtt{cdHIm}$	$4.38 \cdot 10^{-17}$	$4.38 \cdot 10^{-17}$	$-5.936 \cdot 10^{-7}$	$1.87 \cdot 10^{-15}$	$1.87 \cdot 10^{-15}$	$-1.123 \cdot 10^{-6}$
cdHRe	$-3.995 \cdot 10^{-15}$	$-3.995 \cdot 10^{-15}$	$-5.757 \cdot 10^{-7}$	$3.459 \cdot 10^{-15}$	$3.459 \cdot 10^{-15}$	$-1.156 \cdot 10^{-6}$
$\mathtt{cdWIm}$	$2.595 \cdot 10^{-16}$	$2.595 \cdot 10^{-16}$	$-5.781 \cdot 10^{-7}$	$1.091 \cdot 10^{-14}$	$1.091 \cdot 10^{-14}$	$-1.191 \cdot 10^{-6}$
cdWRe	$-2.723 \cdot 10^{-15}$	$-2.723 \cdot 10^{-15}$	$-5.876 \cdot 10^{-7}$	$1.642 \cdot 10^{-15}$	$1.642 \cdot 10^{-15}$	$-1.218 \cdot 10^{-6}$
cll1	$1.233 \cdot 10^{-7}$	$1.233 \cdot 10^{-7}$	0	$5.606 \cdot 10^{-9}$	$5.606 \cdot 10^{-9}$	0
cuHIm	$3.099 \cdot 10^{-17}$	$3.099 \cdot 10^{-17}$	$-7.099 \cdot 10^{-7}$	$1.747 \cdot 10^{-16}$	$1.747 \cdot 10^{-16}$	$-1.431 \cdot 10^{-6}$
cuHRe	$-7.474 \cdot 10^{-16}$	$-7.474 \cdot 10^{-16}$	$-7.225 \cdot 10^{-7}$	$8.87 \cdot 10^{-16}$	$8.87 \cdot 10^{-16}$	$-1.454 \cdot 10^{-6}$
cuWIm	$-5.312 \cdot 10^{-17}$	$-5.312 \cdot 10^{-17}$	$-7.342 \cdot 10^{-7}$	$2.936 \cdot 10^{-16}$	$2.936 \cdot 10^{-16}$	$-1.464 \cdot 10^{-6}$
cuWRe	$-1.544 \cdot 10^{-15}$	$-1.544 \cdot 10^{-15}$	$-7.123 \cdot 10^{-7}$	$2.337 \cdot 10^{-15}$	$2.337 \cdot 10^{-15}$	$-1.412 \cdot 10^{-6}$
sm	0	0	0	$9.081 \cdot 10^{-7}$	$9.081 \cdot 10^{-7}$	0

## **1.14** $HH \rightarrow z\bar{b}b$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$3.06 \cdot 10^{-9}$	$3.06 \cdot 10^{-9}$	0	$2.212 \cdot 10^{-10}$	$2.212 \cdot 10^{-10}$	0	
сНВ	$8.565 \cdot 10^{-7}$	$8.565 \cdot 10^{-7}$	0	$2.248 \cdot 10^{-6}$	$2.248 \cdot 10^{-6}$	0	
cHBtil	$1.199 \cdot 10^{-7}$	$1.199 \cdot 10^{-7}$	0	$1.236 \cdot 10^{-7}$	$1.236 \cdot 10^{-7}$	0	
cHDD	$-1.304 \cdot 10^{-7}$	$-1.304 \cdot 10^{-7}$	0	$6.731 \cdot 10^{-8}$	$6.731 \cdot 10^{-8}$	0	
cHQ1	$9.386 \cdot 10^{-6}$	$9.386 \cdot 10^{-6}$	0	$2.952 \cdot 10^{-5}$	$2.952 \cdot 10^{-5}$	0	
cHQ3	$8.74 \cdot 10^{-7}$	$8.74 \cdot 10^{-7}$	0	$3.054 \cdot 10^{-6}$	$3.054 \cdot 10^{-6}$	0	
cHW	$-9.617 \cdot 10^{-8}$	$-9.617 \cdot 10^{-8}$	0	$4.379 \cdot 10^{-7}$	$4.379 \cdot 10^{-7}$	0	
cHWB	$-7.944 \cdot 10^{-8}$	$-7.944 \cdot 10^{-8}$	0	$7.136 \cdot 10^{-8}$	$7.136 \cdot 10^{-8}$	0	
cHWBtil	$-1.228 \cdot 10^{-7}$	$-1.228 \cdot 10^{-7}$	0	$8.521 \cdot 10^{-8}$	$8.521 \cdot 10^{-8}$	0	
cHWtil	$-1.077 \cdot 10^{-9}$	$-1.077 \cdot 10^{-9}$	0	$3.67 \cdot 10^{-7}$	$3.67 \cdot 10^{-7}$	0	

сНbq	$-1.047 \cdot 10^{-6}$	$-1.047 \cdot 10^{-6}$	0	$1.44 \cdot 10^{-5}$	$1.44 \cdot 10^{-5}$	0
cH13	$-2.798 \cdot 10^{-7}$	$-2.798 \cdot 10^{-7}$	0	$2.545 \cdot 10^{-8}$	$2.545 \cdot 10^{-8}$	0
cbBIm	$-5.127 \cdot 10^{-9}$	$-5.127 \cdot 10^{-9}$	0	$2.695 \cdot 10^{-6}$	$2.695 \cdot 10^{-6}$	0
cbBRe	$-1.59 \cdot 10^{-8}$	$-1.59 \cdot 10^{-8}$	0	$1.599 \cdot 10^{-7}$	$1.599 \cdot 10^{-7}$	0
$\mathtt{cbHIm}$	$-7.744 \cdot 10^{-10}$	$-7.744 \cdot 10^{-10}$	0	$1.104 \cdot 10^{-5}$	$1.104 \cdot 10^{-5}$	0
cbHRe	$1.906 \cdot 10^{-6}$	$1.906 \cdot 10^{-6}$	0	$7.736 \cdot 10^{-6}$	$7.736 \cdot 10^{-6}$	0
cbWIm	$-1.102 \cdot 10^{-7}$	$-1.102 \cdot 10^{-7}$	0	$4.098 \cdot 10^{-6}$	$4.098 \cdot 10^{-6}$	0
cbWRe	$-4.548 \cdot 10^{-8}$	$-4.548 \cdot 10^{-8}$	0	$5.993 \cdot 10^{-7}$	$5.993 \cdot 10^{-7}$	0
cll1	$1.399 \cdot 10^{-7}$	$1.399 \cdot 10^{-7}$	0	$6.361 \cdot 10^{-9}$	$6.361 \cdot 10^{-9}$	0
sm	0	0	0	$2.896 \cdot 10^{-7}$	$2.896 \cdot 10^{-7}$	0

### **1.15** $HH \rightarrow z\nu_e\bar{\nu}_e$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cН	$1.033 \cdot 10^{-6}$	$1.033 \cdot 10^{-6}$	0	$2.504 \cdot 10^{-8}$	$2.504 \cdot 10^{-8}$	0	
cHB	$3.157 \cdot 10^{-8}$	$3.157 \cdot 10^{-8}$	0	$8.487 \cdot 10^{-8}$	$8.487 \cdot 10^{-8}$	0	
cHBtil	$-3.308 \cdot 10^{-8}$	$-3.308 \cdot 10^{-8}$	0	$4.562 \cdot 10^{-7}$	$4.562 \cdot 10^{-7}$	0	
cHDD	$-6.462 \cdot 10^{-10}$	$-6.462 \cdot 10^{-10}$	0	$1.701 \cdot 10^{-9}$	$1.701 \cdot 10^{-9}$	0	
cHW	$3.581 \cdot 10^{-7}$	$3.581 \cdot 10^{-7}$	0	$2.439 \cdot 10^{-7}$	$2.439 \cdot 10^{-7}$	0	
cHWB	$2.802 \cdot 10^{-7}$	$2.802 \cdot 10^{-7}$	0	$2.22 \cdot 10^{-7}$	$2.22 \cdot 10^{-7}$	0	
cHWBtil	$-4.966 \cdot 10^{-8}$	$-4.966 \cdot 10^{-8}$	0	$3.408 \cdot 10^{-7}$	$3.408 \cdot 10^{-7}$	0	
cHWtil	$-4.278 \cdot 10^{-8}$	$-4.278 \cdot 10^{-8}$	0	$8.68 \cdot 10^{-8}$	$8.68 \cdot 10^{-8}$	0	
cHl1	$-4.596 \cdot 10^{-6}$	$-4.596 \cdot 10^{-6}$	0	$7.047 \cdot 10^{-6}$	$7.047 \cdot 10^{-6}$	0	
cH13	$9.007 \cdot 10^{-6}$	$9.007 \cdot 10^{-6}$	0	$1.818 \cdot 10^{-6}$	$1.818 \cdot 10^{-6}$	0	
cll1	$2.029 \cdot 10^{-6}$	$2.029 \cdot 10^{-6}$	0	$9.227 \cdot 10^{-8}$	$9.227 \cdot 10^{-8}$	0	
sm	0	0	0	$1.548 \cdot 10^{-7}$	$1.548 \cdot 10^{-7}$	0	

#### **1.16** $HH \rightarrow zc\bar{c}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cН	$6.542 \cdot 10^{-9}$	$6.542 \cdot 10^{-9}$	0	$6.092 \cdot 10^{-9}$	$6.092 \cdot 10^{-9}$	0	
сНВ	$-8.262 \cdot 10^{-9}$	$-8.262 \cdot 10^{-9}$	0	$1.089 \cdot 10^{-6}$	$1.089 \cdot 10^{-6}$	0	
cHBtil	$2.259 \cdot 10^{-7}$	$2.259 \cdot 10^{-7}$	0	$1.175 \cdot 10^{-6}$	$1.175 \cdot 10^{-6}$	0	
cHDD	$-2.577 \cdot 10^{-8}$	$-2.577 \cdot 10^{-8}$	0	$4.556 \cdot 10^{-8}$	$4.556 \cdot 10^{-8}$	0	
cHW	$6.422 \cdot 10^{-7}$	$6.422 \cdot 10^{-7}$	0	$1.764 \cdot 10^{-5}$	$1.764 \cdot 10^{-5}$	0	
cHWB	$2.1 \cdot 10^{-7}$	$2.1\cdot10^{-7}$	0	$4.823 \cdot 10^{-6}$	$4.823 \cdot 10^{-6}$	0	
cHWBtil	$-6.2\cdot10^{-7}$	$-6.2\cdot10^{-7}$	0	$4.771 \cdot 10^{-6}$	$4.771 \cdot 10^{-6}$	0	
cHWtil	$3.829 \cdot 10^{-6}$	$3.829 \cdot 10^{-6}$	0	$1.384 \cdot 10^{-5}$	$1.384 \cdot 10^{-5}$	0	
cHj1	$-1.991 \cdot 10^{-6}$	$-1.991 \cdot 10^{-6}$	0	$4.79 \cdot 10^{-7}$	$4.79\cdot 10^{-7}$	0	
сНј3	$1.556 \cdot 10^{-5}$	$1.556 \cdot 10^{-5}$	0	$1.257 \cdot 10^{-5}$	$1.257 \cdot 10^{-5}$	0	
cH13	$-4.834 \cdot 10^{-7}$	$-4.834 \cdot 10^{-7}$	0	$4.396 \cdot 10^{-8}$	$4.396 \cdot 10^{-8}$	0	
cHu	$6.604 \cdot 10^{-6}$	$6.604 \cdot 10^{-6}$	0	$1.262 \cdot 10^{-5}$	$1.262 \cdot 10^{-5}$	0	
cll1	$2.417 \cdot 10^{-7}$	$2.417 \cdot 10^{-7}$	0	$1.099 \cdot 10^{-8}$	$1.099 \cdot 10^{-8}$	0	
cuBIm	$-4.104 \cdot 10^{-11}$	$-4.104 \cdot 10^{-11}$	$1.462 \cdot 10^{-7}$	$9.922 \cdot 10^{-12}$	$9.922 \cdot 10^{-12}$	$2.721 \cdot 10^{-7}$	
cuBRe	$-3.531 \cdot 10^{-10}$	$-3.531 \cdot 10^{-10}$	$1.416 \cdot 10^{-7}$	$3.044 \cdot 10^{-10}$	$3.044 \cdot 10^{-10}$	$2.628 \cdot 10^{-7}$	
cuHIm	$-1.797 \cdot 10^{-10}$	$-1.797 \cdot 10^{-10}$	$1.67 \cdot 10^{-7}$	$6.167 \cdot 10^{-11}$	$6.167 \cdot 10^{-11}$	$2.757 \cdot 10^{-7}$	
cuHRe	$7.119 \cdot 10^{-10}$	$7.119 \cdot 10^{-10}$	$1.264 \cdot 10^{-7}$	$2.193 \cdot 10^{-11}$	$2.193 \cdot 10^{-11}$	$2.736 \cdot 10^{-7}$	
cuWIm	$-8.008 \cdot 10^{-12}$	$-8.008 \cdot 10^{-12}$	$1.374 \cdot 10^{-7}$	$1.601 \cdot 10^{-11}$	$1.601 \cdot 10^{-11}$	$2.498 \cdot 10^{-7}$	
cuWRe	$6.595 \cdot 10^{-10}$	$6.595 \cdot 10^{-10}$	$1.365 \cdot 10^{-7}$	$1.062 \cdot 10^{-9}$	$1.062 \cdot 10^{-9}$	$2.826 \cdot 10^{-7}$	
sm	0	0	0	$1.582 \cdot 10^{-5}$	$1.582 \cdot 10^{-5}$	0	

### 1.17 $HH \rightarrow zd\bar{d}$

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

сН	$1.639 \cdot 10^{-8}$	$1.639 \cdot 10^{-8}$	0	$3.251 \cdot 10^{-10}$	$3.251 \cdot 10^{-10}$	0
сНВ	$9.994 \cdot 10^{-8}$	$9.994 \cdot 10^{-8}$	0	$7.221 \cdot 10^{-8}$	$7.221 \cdot 10^{-8}$	0
cHBtil	$-1.575 \cdot 10^{-8}$	$-1.575 \cdot 10^{-8}$	0	$8.511 \cdot 10^{-9}$	$8.511 \cdot 10^{-9}$	0
cHDD	$-1.998 \cdot 10^{-7}$	$-1.998 \cdot 10^{-7}$	0	$1.722 \cdot 10^{-8}$	$1.722 \cdot 10^{-8}$	0
cHW	$7.406 \cdot 10^{-7}$	$7.406 \cdot 10^{-7}$	0	$1.815 \cdot 10^{-6}$	$1.815 \cdot 10^{-6}$	0
cHWB	$3.052 \cdot 10^{-7}$	$3.052 \cdot 10^{-7}$	0	$2.351 \cdot 10^{-7}$	$2.351 \cdot 10^{-7}$	0
cHWBtil	$1.325 \cdot 10^{-7}$	$1.325 \cdot 10^{-7}$	0	$4.746 \cdot 10^{-7}$	$4.746 \cdot 10^{-7}$	0
cHWtil	$-1.821 \cdot 10^{-6}$	$-1.821 \cdot 10^{-6}$	0	$3.61 \cdot 10^{-5}$	$3.61\cdot 10^{-5}$	0
cHd	$-1.121 \cdot 10^{-7}$	$-1.121 \cdot 10^{-7}$	0	$1.166 \cdot 10^{-7}$	$1.166 \cdot 10^{-7}$	0
cHj1	$1.648 \cdot 10^{-6}$	$1.648 \cdot 10^{-6}$	0	$2.567 \cdot 10^{-6}$	$2.567 \cdot 10^{-6}$	0
cHj3	$9.192 \cdot 10^{-6}$	$9.192 \cdot 10^{-6}$	0	$2.481 \cdot 10^{-5}$	$2.481 \cdot 10^{-5}$	0
cH13	$-3.072 \cdot 10^{-7}$	$-3.072 \cdot 10^{-7}$	0	$2.794 \cdot 10^{-8}$	$2.794 \cdot 10^{-8}$	0
$\mathtt{cdBIm}$	$5.467 \cdot 10^{-15}$	$5.467 \cdot 10^{-15}$	$-5.853 \cdot 10^{-7}$	$1.549 \cdot 10^{-15}$	$1.549 \cdot 10^{-15}$	$-1.226 \cdot 10^{-6}$
cdBRe	$-3.552 \cdot 10^{-15}$	$-3.552 \cdot 10^{-15}$	$-5.912 \cdot 10^{-7}$	$1.221 \cdot 10^{-15}$	$1.221 \cdot 10^{-15}$	$-1.228 \cdot 10^{-6}$
$\mathtt{cdHIm}$	$7.911 \cdot 10^{-16}$	$7.911 \cdot 10^{-16}$	$-5.815 \cdot 10^{-7}$	$1.309 \cdot 10^{-15}$	$1.309 \cdot 10^{-15}$	$-1.146 \cdot 10^{-6}$
cdHRe	$-6.407 \cdot 10^{-16}$	$-6.407 \cdot 10^{-16}$	$-5.775 \cdot 10^{-7}$	$2.217 \cdot 10^{-15}$	$2.217 \cdot 10^{-15}$	$-1.173 \cdot 10^{-6}$
$\mathtt{cdWIm}$	$-5.188 \cdot 10^{-16}$	$-5.188 \cdot 10^{-16}$	$-5.783 \cdot 10^{-7}$	$1.05 \cdot 10^{-15}$	$1.05 \cdot 10^{-15}$	$-1.143 \cdot 10^{-6}$
cdWRe	$-5.707 \cdot 10^{-15}$	$-5.707 \cdot 10^{-15}$	$-5.783 \cdot 10^{-7}$	$7.139 \cdot 10^{-15}$	$7.139 \cdot 10^{-15}$	$-1.177 \cdot 10^{-6}$
cll1	$1.536 \cdot 10^{-7}$	$1.536 \cdot 10^{-7}$	0	$6.985 \cdot 10^{-9}$	$6.985 \cdot 10^{-9}$	0
sm	0	0	0	$1.696 \cdot 10^{-7}$	$1.696 \cdot 10^{-7}$	0

## 1.18 $HH \rightarrow ze^+e^-$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	$1.011 \cdot 10^{-9}$	$1.011 \cdot 10^{-9}$	0	$4.847 \cdot 10^{-11}$	$4.847 \cdot 10^{-11}$	0
сНВ	$3.527 \cdot 10^{-8}$	$3.527 \cdot 10^{-8}$	0	$1.917 \cdot 10^{-7}$	$1.917 \cdot 10^{-7}$	0
cHBtil	$-2.42 \cdot 10^{-8}$	$-2.42 \cdot 10^{-8}$	0	$4.607 \cdot 10^{-7}$	$4.607 \cdot 10^{-7}$	0
cHDD	$2.916 \cdot 10^{-9}$	$2.916 \cdot 10^{-9}$	0	$3.277 \cdot 10^{-9}$	$3.277 \cdot 10^{-9}$	0

cHW	$2.563 \cdot 10^{-7}$	$2.563 \cdot 10^{-7}$	0	$1.795 \cdot 10^{-6}$	$1.795 \cdot 10^{-6}$	0
cHWB	$8.31 \cdot 10^{-8}$	$8.31 \cdot 10^{-8}$	0	$4.551 \cdot 10^{-8}$	$4.551 \cdot 10^{-8}$	0
cHWBtil	$-5.402 \cdot 10^{-8}$	$-5.402 \cdot 10^{-8}$	0	$1.265 \cdot 10^{-7}$	$1.265 \cdot 10^{-7}$	0
cHWtil	$8.764 \cdot 10^{-6}$	$8.764 \cdot 10^{-6}$	0	0.0002508	0.0002508	0
сНе	$-9.222 \cdot 10^{-8}$	$-9.222 \cdot 10^{-8}$	0	$2.021 \cdot 10^{-7}$	$2.021 \cdot 10^{-7}$	0
cHl1	$7.438 \cdot 10^{-7}$	$7.438 \cdot 10^{-7}$	0	$2.083 \cdot 10^{-6}$	$2.083 \cdot 10^{-6}$	0
cH13	$7.052 \cdot 10^{-7}$	$7.052 \cdot 10^{-7}$	0	$2.269 \cdot 10^{-6}$	$2.269 \cdot 10^{-6}$	0
ceBIm	$3.301 \cdot 10^{-20}$	$3.301 \cdot 10^{-20}$	$-1.606 \cdot 10^{-6}$	$2.859 \cdot 10^{-18}$	$2.859 \cdot 10^{-18}$	$-3.183 \cdot 10^{-6}$
ceBRe	$-1.788 \cdot 10^{-18}$	$-1.788 \cdot 10^{-18}$	$-1.622 \cdot 10^{-6}$	$2.859 \cdot 10^{-18}$	$2.859 \cdot 10^{-18}$	$-3.183 \cdot 10^{-6}$
ceHIm	$-1.112 \cdot 10^{-17}$	$-1.112 \cdot 10^{-17}$	$-1.618 \cdot 10^{-6}$	$3.985 \cdot 10^{-18}$	$3.985 \cdot 10^{-18}$	$-3.237 \cdot 10^{-6}$
ceHRe	$4.809 \cdot 10^{-18}$	$4.809 \cdot 10^{-18}$	$-1.601 \cdot 10^{-6}$	$2.468 \cdot 10^{-18}$	$2.468 \cdot 10^{-18}$	$-3.202 \cdot 10^{-6}$
ceWIm	$6.164 \cdot 10^{-20}$	$6.164 \cdot 10^{-20}$	$-1.606 \cdot 10^{-6}$	$9.968 \cdot 10^{-18}$	$9.968 \cdot 10^{-18}$	$-3.21 \cdot 10^{-6}$
ceWRe	$-8.779 \cdot 10^{-19}$	$-8.779 \cdot 10^{-19}$	$-1.606 \cdot 10^{-6}$	$9.522 \cdot 10^{-19}$	$9.522 \cdot 10^{-19}$	$-3.214 \cdot 10^{-6}$
cll1	$1.705 \cdot 10^{-8}$	$1.705 \cdot 10^{-8}$	0	$7.753 \cdot 10^{-10}$	$7.753 \cdot 10^{-10}$	0
sm	0	0	0	$1.109 \cdot 10^{-7}$	$1.109 \cdot 10^{-7}$	0

## **1.19** $HH \rightarrow zt\bar{t}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	$-2.257 \cdot 10^{-7}$	$-2.257 \cdot 10^{-7}$	0	$5.761 \cdot 10^{-7}$	$5.761 \cdot 10^{-7}$	0
сНВ	$-2.491 \cdot 10^{-6}$	$-2.491 \cdot 10^{-6}$	0	$4.187 \cdot 10^{-7}$	$4.187 \cdot 10^{-7}$	0
cHBtil	$4.684 \cdot 10^{-7}$	$4.684 \cdot 10^{-7}$	0	$2.122 \cdot 10^{-7}$	$2.122 \cdot 10^{-7}$	0
cHDD	$4.516 \cdot 10^{-6}$	$4.516 \cdot 10^{-6}$	0	$3.792 \cdot 10^{-6}$	$3.792 \cdot 10^{-6}$	0
cHQ1	$2.093 \cdot 10^{-5}$	$2.093 \cdot 10^{-5}$	0	$2.854 \cdot 10^{-5}$	$2.854 \cdot 10^{-5}$	0
cHQ3	$-6.353 \cdot 10^{-5}$	$-6.353 \cdot 10^{-5}$	0	$8.124 \cdot 10^{-5}$	$8.124 \cdot 10^{-5}$	0
cHW	$-1.215 \cdot 10^{-5}$	$-1.215 \cdot 10^{-5}$	0	$2.447 \cdot 10^{-6}$	$2.447 \cdot 10^{-6}$	0
cHWB	$-1.607 \cdot 10^{-5}$	$-1.607 \cdot 10^{-5}$	0	$2.096 \cdot 10^{-6}$	$2.096 \cdot 10^{-6}$	0
cHWBtil	$-6.179 \cdot 10^{-7}$	$-6.179 \cdot 10^{-7}$	0	$5.433 \cdot 10^{-7}$	$5.433 \cdot 10^{-7}$	0

cHWtil	$4.634 \cdot 10^{-7}$	$4.634 \cdot 10^{-7}$	0	$7.338 \cdot 10^{-6}$	$7.338 \cdot 10^{-6}$	0
cH13	$-6.021 \cdot 10^{-6}$	$-6.021 \cdot 10^{-6}$	0	$5.475 \cdot 10^{-7}$	$5.475 \cdot 10^{-7}$	0
cHt	$-2.684 \cdot 10^{-5}$	$-2.684 \cdot 10^{-5}$	0	$3.379 \cdot 10^{-5}$	$3.379 \cdot 10^{-5}$	0
cll1	$3.011 \cdot 10^{-6}$	$3.011 \cdot 10^{-6}$	0	$1.369 \cdot 10^{-7}$	$1.369 \cdot 10^{-7}$	0
$\mathtt{ctBIm}$	$-1.94 \cdot 10^{-6}$	$-1.94 \cdot 10^{-6}$	0	$3.6 \cdot 10^{-5}$	$3.6 \cdot 10^{-5}$	0
ctBRe	$1.058 \cdot 10^{-6}$	$1.058 \cdot 10^{-6}$	0	$1.123 \cdot 10^{-5}$	$1.123 \cdot 10^{-5}$	0
$\mathtt{ctHIm}$	$3.576 \cdot 10^{-7}$	$3.576 \cdot 10^{-7}$	0	$1.763 \cdot 10^{-5}$	$1.763 \cdot 10^{-5}$	0
ctHRe	$-4.509 \cdot 10^{-6}$	$-4.509 \cdot 10^{-6}$	0	$2.301 \cdot 10^{-6}$	$2.301 \cdot 10^{-6}$	0
$\mathtt{ctWIm}$	$-3.478 \cdot 10^{-8}$	$-3.478 \cdot 10^{-8}$	0	$9.436 \cdot 10^{-6}$	$9.436 \cdot 10^{-6}$	0
ctWRe	$-1.976 \cdot 10^{-6}$	$-1.976 \cdot 10^{-6}$	0	$3.915 \cdot 10^{-5}$	$3.915 \cdot 10^{-5}$	0
sm	0	0	0	0.0002417	0.0002417	0

### $\textbf{1.20} \quad HH \rightarrow zz$

		interfere	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	2.904	2.904	0	0.06606	0.06606	0
сНВ	0.02873	0.02873	0	0.2244	0.2244	0
cHBtil	$2.777 \cdot 10^{-17}$	$2.777 \cdot 10^{-17}$	0	0.1973	0.1973	0
cHDD	-0.2606	-0.2606	0	0.4455	0.4455	0
cHW	0.02307	0.02307	0	2.284	2.284	0
cHWB	0.01059	0.01059	0	0.6493	0.6493	0
cHWBtil	$-3.174 \cdot 10^{-17}$	$-3.174 \cdot 10^{-17}$	0	0.6626	0.6626	0
cHWtil	$5.934 \cdot 10^{-16}$	$5.934 \cdot 10^{-16}$	0	2.652	2.652	0
cH13	-7.767	-7.767	0	0.4709	0.4709	0
cll1	3.883	3.883	0	0.1177	0.1177	0
sm	0	0	0	1.649	1.649	0

# **1.21** $HW^+ \rightarrow \gamma t \bar{b}$

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHB	$9.062 \cdot 10^{-7}$	$9.062 \cdot 10^{-7}$	0	$1.515 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	0	
cHBtil	$-3.119 \cdot 10^{-9}$	$-3.119 \cdot 10^{-9}$	0	$2.852 \cdot 10^{-8}$	$2.852 \cdot 10^{-8}$	0	
cHDD	$-4.662 \cdot 10^{-7}$	$-4.662 \cdot 10^{-7}$	0	$1.585 \cdot 10^{-8}$	$1.585 \cdot 10^{-8}$	0	
cHQ3	$3.673 \cdot 10^{-8}$	$3.673 \cdot 10^{-8}$	0	$3.697 \cdot 10^{-8}$	$3.697 \cdot 10^{-8}$	0	
cHW	$-7.521 \cdot 10^{-7}$	$-7.521 \cdot 10^{-7}$	0	$3.979 \cdot 10^{-7}$	$3.979 \cdot 10^{-7}$	0	
cHWB	$-1.414 \cdot 10^{-6}$	$-1.414 \cdot 10^{-6}$	0	$6.255 \cdot 10^{-6}$	$6.255 \cdot 10^{-6}$	0	
cHWBtil	$1.503 \cdot 10^{-7}$	$1.503 \cdot 10^{-7}$	0	$2.393 \cdot 10^{-6}$	$2.393 \cdot 10^{-6}$	0	
cHWtil	$-2.291 \cdot 10^{-7}$	$-2.291 \cdot 10^{-7}$	0	$1.422 \cdot 10^{-7}$	$1.422 \cdot 10^{-7}$	0	
cH13	$-2.766 \cdot 10^{-7}$	$-2.766 \cdot 10^{-7}$	0	$2.515 \cdot 10^{-8}$	$2.515 \cdot 10^{-8}$	0	
$\mathtt{cHtbIm}$	$-7.814 \cdot 10^{-9}$	$-7.814 \cdot 10^{-9}$	0	$1.243 \cdot 10^{-7}$	$1.243 \cdot 10^{-7}$	0	
cHtbRe	$-8.906 \cdot 10^{-8}$	$-8.906 \cdot 10^{-8}$	0	$4.379 \cdot 10^{-7}$	$4.379 \cdot 10^{-7}$	0	
cM	$2.672 \cdot 10^{-8}$	$2.672 \cdot 10^{-8}$	0	$1.03 \cdot 10^{-6}$	$1.03 \cdot 10^{-6}$	0	
cWtil	$-4.102 \cdot 10^{-8}$	$-4.102 \cdot 10^{-8}$	0	$3.289 \cdot 10^{-7}$	$3.289 \cdot 10^{-7}$	0	
$\mathtt{cbBIm}$	$9.598 \cdot 10^{-8}$	$9.598 \cdot 10^{-8}$	0	$6.35 \cdot 10^{-6}$	$6.35 \cdot 10^{-6}$	0	
cbBRe	$2.216 \cdot 10^{-7}$	$2.216 \cdot 10^{-7}$	0	$1.319 \cdot 10^{-5}$	$1.319 \cdot 10^{-5}$	0	
$\mathtt{cbHIm}$	$7.029 \cdot 10^{-10}$	$7.029 \cdot 10^{-10}$	0	$2.295 \cdot 10^{-8}$	$2.295 \cdot 10^{-8}$	0	
cbHRe	$4.612 \cdot 10^{-10}$	$4.612 \cdot 10^{-10}$	0	$2.845 \cdot 10^{-8}$	$2.845 \cdot 10^{-8}$	0	
$\mathtt{cbWIm}$	$4.232 \cdot 10^{-8}$	$4.232 \cdot 10^{-8}$	0	$1.452 \cdot 10^{-6}$	$1.452 \cdot 10^{-6}$	0	
cbWRe	$-9.568 \cdot 10^{-10}$	$-9.568 \cdot 10^{-10}$	0	$1.18 \cdot 10^{-6}$	$1.18 \cdot 10^{-6}$	0	
cll1	$1.383 \cdot 10^{-7}$	$1.383 \cdot 10^{-7}$	0	$6.287 \cdot 10^{-9}$	$6.287 \cdot 10^{-9}$	0	
$\mathtt{ctBIm}$	$4.736 \cdot 10^{-6}$	$4.736 \cdot 10^{-6}$	0	$3.934 \cdot 10^{-6}$	$3.934 \cdot 10^{-6}$	0	
ctBRe	$2.786 \cdot 10^{-7}$	$2.786 \cdot 10^{-7}$	0	$9.023 \cdot 10^{-7}$	$9.023 \cdot 10^{-7}$	0	
$\mathtt{ctHIm}$	$2.322 \cdot 10^{-7}$	$2.322 \cdot 10^{-7}$	0	$1.165 \cdot 10^{-7}$	$1.165 \cdot 10^{-7}$	0	
ctHRe	$7.77\cdot10^{-8}$	$7.77 \cdot 10^{-8}$	0	$2.636 \cdot 10^{-9}$	$2.636 \cdot 10^{-9}$	0	
$\mathtt{ctWIm}$	$2.181 \cdot 10^{-8}$	$2.181\cdot10^{-8}$	0	$2.26 \cdot 10^{-6}$	$2.26\cdot10^{-6}$	0	

ctWRe	$3.678 \cdot 10^{-7}$	$3.678 \cdot 10^{-7}$	0	$1.353 \cdot 10^{-6}$ $1.35$	$53 \cdot 10^{-6}$ 0
sm	0	0	0	$1.217 \cdot 10^{-5}$ $1.21$	$17 \cdot 10^{-5}$ 0

## 1.22 $HW^+ \rightarrow \gamma u \bar{d}$

			square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
сНВ	$5.024 \cdot 10^{-11}$	$5.024 \cdot 10^{-11}$	0	$8.88 \cdot 10^{-9}$	$8.88 \cdot 10^{-9}$	0
cHBtil	$-1.481 \cdot 10^{-9}$	$-1.481 \cdot 10^{-9}$	0	$2.925 \cdot 10^{-9}$	$2.925 \cdot 10^{-9}$	0
cHDD	$-2.786 \cdot 10^{-7}$	$-2.786 \cdot 10^{-7}$	0	$9.475 \cdot 10^{-9}$	$9.475 \cdot 10^{-9}$	0
cHW	$-1.202 \cdot 10^{-5}$	$-1.202 \cdot 10^{-5}$	0	$3.918 \cdot 10^{-5}$	$3.918 \cdot 10^{-5}$	0
cHWB	$-9.091 \cdot 10^{-8}$	$-9.091 \cdot 10^{-8}$	0	$2.463 \cdot 10^{-8}$	$2.463 \cdot 10^{-8}$	0
cHWBtil	$9.302 \cdot 10^{-9}$	$9.302 \cdot 10^{-9}$	0	$3.372 \cdot 10^{-7}$	$3.372 \cdot 10^{-7}$	0
cHWtil	$-1.47 \cdot 10^{-7}$	$-1.47 \cdot 10^{-7}$	0	$3.007 \cdot 10^{-7}$	$3.007 \cdot 10^{-7}$	0
сНј3	$2.025 \cdot 10^{-7}$	$2.025 \cdot 10^{-7}$	0	$1.399 \cdot 10^{-7}$	$1.399 \cdot 10^{-7}$	0
cH13	$-1.993 \cdot 10^{-9}$	$-1.993 \cdot 10^{-9}$	0	$1.812 \cdot 10^{-10}$	$1.812 \cdot 10^{-10}$	0
$\mathtt{cHudIm}$	$-5.288 \cdot 10^{-25}$	$-5.288 \cdot 10^{-25}$	$-1.324 \cdot 10^{-6}$	$9.195 \cdot 10^{-27}$	$9.195 \cdot 10^{-27}$	$-2.675 \cdot 10^{-6}$
cHudRe	$-2.281 \cdot 10^{-25}$	$-2.281 \cdot 10^{-25}$	$-1.315 \cdot 10^{-6}$	$2.262 \cdot 10^{-27}$	$2.262 \cdot 10^{-27}$	$-2.653 \cdot 10^{-6}$
cW	$1.38 \cdot 10^{-6}$	$1.38 \cdot 10^{-6}$	0	$2.415 \cdot 10^{-5}$	$2.415 \cdot 10^{-5}$	0
cWtil	$1.173 \cdot 10^{-9}$	$1.173 \cdot 10^{-9}$	0	$1.256 \cdot 10^{-8}$	$1.256 \cdot 10^{-8}$	0
$\mathtt{cdBIm}$	$-4.841 \cdot 10^{-17}$	$-4.841 \cdot 10^{-17}$	$-5.991 \cdot 10^{-7}$	$4.92 \cdot 10^{-16}$	$4.92 \cdot 10^{-16}$	$-1.179 \cdot 10^{-6}$
cdBRe	$-7.994 \cdot 10^{-16}$	$-7.994 \cdot 10^{-16}$	$-5.879 \cdot 10^{-7}$	$1.129 \cdot 10^{-15}$	$1.129 \cdot 10^{-15}$	$-1.151 \cdot 10^{-6}$
$\mathtt{cdHIm}$	$-1.925 \cdot 10^{-16}$	$-1.925 \cdot 10^{-16}$	$-5.715 \cdot 10^{-7}$	$1.576 \cdot 10^{-17}$	$1.576 \cdot 10^{-17}$	$-1.142 \cdot 10^{-6}$
cdHRe	$-6.368 \cdot 10^{-16}$	$-6.368 \cdot 10^{-16}$	$-5.81 \cdot 10^{-7}$	$2.124 \cdot 10^{-16}$	$2.124 \cdot 10^{-16}$	$-1.177 \cdot 10^{-6}$
$\mathtt{cdWIm}$	$7.555 \cdot 10^{-16}$	$7.555 \cdot 10^{-16}$	$-5.824 \cdot 10^{-7}$	$1.01 \cdot 10^{-15}$	$1.01 \cdot 10^{-15}$	$-1.089 \cdot 10^{-6}$
cdWRe	$1.173 \cdot 10^{-14}$	$1.173 \cdot 10^{-14}$	$-5.965 \cdot 10^{-7}$	$1.78 \cdot 10^{-15}$	$1.78 \cdot 10^{-15}$	$-1.18 \cdot 10^{-6}$
cll1	$9.963 \cdot 10^{-10}$	$9.963 \cdot 10^{-10}$	0	$4.53 \cdot 10^{-11}$	$4.53 \cdot 10^{-11}$	0
cuBIm	$8.314 \cdot 10^{-18}$	$8.314 \cdot 10^{-18}$	$-7.217 \cdot 10^{-7}$	$3.936 \cdot 10^{-17}$	$3.936 \cdot 10^{-17}$	$-1.448 \cdot 10^{-6}$
cuBRe	$-7.182 \cdot 10^{-19}$	$-7.182 \cdot 10^{-19}$	$-7.241 \cdot 10^{-7}$	$8.519 \cdot 10^{-17}$	$8.519 \cdot 10^{-17}$	$-1.456 \cdot 10^{-6}$

cuHIm	$-2.161 \cdot 10^{-17}$	$-2.161 \cdot 10^{-17}$	$-7.404 \cdot 10^{-7}$	$3.882 \cdot 10^{-19}$	$3.882 \cdot 10^{-19}$	$-1.443 \cdot 10^{-6}$
cuHRe	$-8.117 \cdot 10^{-17}$	$-8.117 \cdot 10^{-17}$	$-7.269 \cdot 10^{-7}$	$4.294 \cdot 10^{-17}$	$4.294 \cdot 10^{-17}$	$-1.444 \cdot 10^{-6}$
cuWIm	$3.947 \cdot 10^{-18}$	$3.947 \cdot 10^{-18}$	$-7.094 \cdot 10^{-7}$	$3.51 \cdot 10^{-17}$	$3.51 \cdot 10^{-17}$	$-1.425 \cdot 10^{-6}$
cuWRe	$-1.548 \cdot 10^{-18}$	$-1.548 \cdot 10^{-18}$	$-7.754 \cdot 10^{-7}$	$1.674 \cdot 10^{-16}$	$1.674 \cdot 10^{-16}$	$-1.493 \cdot 10^{-6}$
sm	0	0	0	$4.258 \cdot 10^{-8}$	$4.258 \cdot 10^{-8}$	0

## 1.23 $HW^+ \rightarrow u\bar{d}$

		ence		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHDD	-0.000301	-0.000301	0	$2.281 \cdot 10^{-6}$	$2.281 \cdot 10^{-6}$	0	
cHW	0.02096	0.02096	0	0.0983	0.0983	0	
cHWtil	$2.2 \cdot 10^{-14}$	$2.2 \cdot 10^{-14}$	0	0.07602	0.07602	0	
cHj3	0.1458	0.1458	0	0.6841	0.6841	0	
cH13	-0.005554	-0.005554	0	0.0003367	0.0003367	0	
$\mathtt{cHudIm}$	$3.762 \cdot 10^{-23}$	$3.762 \cdot 10^{-23}$	$-1.329 \cdot 10^{-6}$	$2.63 \cdot 10^{-20}$	$2.63 \cdot 10^{-20}$	$-2.7 \cdot 10^{-6}$	
cHudRe	$-2.346 \cdot 10^{-19}$	$-2.346 \cdot 10^{-19}$	$-1.322 \cdot 10^{-6}$	$2.419 \cdot 10^{-20}$	$2.419 \cdot 10^{-20}$	$-2.687 \cdot 10^{-6}$	
$\mathtt{cdHIm}$	$-2.412 \cdot 10^{-13}$	$-2.412 \cdot 10^{-13}$	$-5.805 \cdot 10^{-7}$	$4.363 \cdot 10^{-11}$	$4.363 \cdot 10^{-11}$	$-1.169 \cdot 10^{-6}$	
cdHRe	$-7.255 \cdot 10^{-12}$	$-7.255 \cdot 10^{-12}$	$-5.927 \cdot 10^{-7}$	$4.368 \cdot 10^{-11}$	$4.368 \cdot 10^{-11}$	$-1.168 \cdot 10^{-6}$	
$\mathtt{cdWIm}$	$-1.268 \cdot 10^{-13}$	$-1.268 \cdot 10^{-13}$	$-5.519 \cdot 10^{-7}$	$4.468 \cdot 10^{-10}$	$4.468 \cdot 10^{-10}$	$-1.186 \cdot 10^{-6}$	
cdWRe	$-5.458 \cdot 10^{-11}$	$-5.458 \cdot 10^{-11}$	$-5.863 \cdot 10^{-7}$	$1.981 \cdot 10^{-10}$	$1.981 \cdot 10^{-10}$	$-1.161 \cdot 10^{-6}$	
cll1	0.002777	0.002777	0	$8.418 \cdot 10^{-5}$	$8.418 \cdot 10^{-5}$	0	
$\mathtt{cuHIm}$	$5.158 \cdot 10^{-14}$	$5.158 \cdot 10^{-14}$	$-7.174 \cdot 10^{-7}$	$9.55 \cdot 10^{-12}$	$9.55 \cdot 10^{-12}$	$-1.456 \cdot 10^{-6}$	
cuHRe	$-2.986 \cdot 10^{-11}$	$-2.986 \cdot 10^{-11}$	$-7.032 \cdot 10^{-7}$	$1.041 \cdot 10^{-11}$	$1.041 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$	
$\mathtt{cuWIm}$	$-6.288 \cdot 10^{-15}$	$-6.288 \cdot 10^{-15}$	$-7.157 \cdot 10^{-7}$	$3.06 \cdot 10^{-10}$	$3.06 \cdot 10^{-10}$	$-1.438 \cdot 10^{-6}$	
cuWRe	$-7.03 \cdot 10^{-12}$	$-7.03 \cdot 10^{-12}$	$-7.254 \cdot 10^{-7}$	$9.559 \cdot 10^{-11}$	$9.559 \cdot 10^{-11}$	$-1.444 \cdot 10^{-6}$	
sm	0	0	0	0.00933	0.00933	0	

## 1.24 $HW^- \rightarrow \bar{t}b$

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHDD	-0.1807	-0.1807	0	0.001369	0.001369	0	
cHQ3	-2.078	-2.078	0	1.69	1.69	0	
cHW	-0.0642	-0.0642	0	0.07868	0.07868	0	
cHWtil	$-3.956 \cdot 10^{-5}$	$-3.956 \cdot 10^{-5}$	0	0.08004	0.08004	0	
cH13	-0.02381	-0.02381	0	0.001444	0.001444	0	
$\mathtt{cHtbIm}$	$-7.952 \cdot 10^{-6}$	$-7.952 \cdot 10^{-6}$	0	0.2799	0.2799	0	
cHtbRe	-0.04698	-0.04698	0	0.4748	0.4748	0	
$\mathtt{cbHIm}$	$1.239 \cdot 10^{-5}$	$1.239 \cdot 10^{-5}$	0	0.0812	0.0812	0	
cbHRe	-0.0008545	-0.0008545	0	0.06382	0.06382	0	
$\mathtt{cbWIm}$	$-1.048 \cdot 10^{-5}$	$-1.048 \cdot 10^{-5}$	0	1.226	1.226	0	
cbWRe	-0.00308	-0.00308	0	1.926	1.926	0	
cll1	0.01191	0.01191	0	0.0003609	0.0003609	0	
$\mathtt{ctHIm}$	-0.001239	-0.001239	0	0.05759	0.05759	0	
ctHRe	0.01818	0.01818	0	0.04963	0.04963	0	
$\mathtt{ctWIm}$	0.002096	0.002096	0	0.4478	0.4478	0	
ctWRe	0.293	0.293	0	1.598	1.598	0	
sm	0	0	0	0.742	0.742	0	

## 1.25 $HW^- \rightarrow \gamma e^- \bar{\nu}_e$

		interfere	ence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHB	$-3.317 \cdot 10^{-9}$	$-3.317 \cdot 10^{-9}$	0	$2.011 \cdot 10^{-9}$	$2.011 \cdot 10^{-9}$	0	
cHBtil	$-1.825 \cdot 10^{-9}$	$-1.825 \cdot 10^{-9}$	0	$2.343 \cdot 10^{-8}$	$2.343 \cdot 10^{-8}$	0	
cHDD	$-1.97 \cdot 10^{-8}$	$-1.97 \cdot 10^{-8}$	0	$6.698 \cdot 10^{-10}$	$6.698 \cdot 10^{-10}$	0	

cHW	$5.527 \cdot 10^{-9}$	$5.527 \cdot 10^{-9}$	0	$1.642 \cdot 10^{-7}$	$1.642 \cdot 10^{-7}$	0
cHWB	$4.803 \cdot 10^{-9}$	$4.803 \cdot 10^{-9}$	0	$2.007 \cdot 10^{-6}$	$2.007 \cdot 10^{-6}$	0
cHWBtil	$-1.696 \cdot 10^{-8}$	$-1.696 \cdot 10^{-8}$	0	$9.004 \cdot 10^{-7}$	$9.004 \cdot 10^{-7}$	0
cHWtil	$-8.152 \cdot 10^{-9}$	$-8.152 \cdot 10^{-9}$	0	$1.181 \cdot 10^{-7}$	$1.181 \cdot 10^{-7}$	0
cH13	$1.259 \cdot 10^{-6}$	$1.259 \cdot 10^{-6}$	0	$5.686 \cdot 10^{-6}$	$5.686 \cdot 10^{-6}$	0
cM	$-1.545 \cdot 10^{-8}$	$-1.545 \cdot 10^{-8}$	0	$4.102 \cdot 10^{-8}$	$4.102 \cdot 10^{-8}$	0
cWtil	$3.066 \cdot 10^{-9}$	$3.066 \cdot 10^{-9}$	0	$1.065 \cdot 10^{-9}$	$1.065 \cdot 10^{-9}$	0
ceBIm	$4.748 \cdot 10^{-19}$	$4.748 \cdot 10^{-19}$	$-1.601 \cdot 10^{-6}$	$1.049 \cdot 10^{-18}$	$1.049 \cdot 10^{-18}$	$-3.242 \cdot 10^{-6}$
ceBRe	$-5.9 \cdot 10^{-18}$	$-5.9 \cdot 10^{-18}$	$-1.593 \cdot 10^{-6}$	$1.049 \cdot 10^{-18}$	$1.049 \cdot 10^{-18}$	$-3.242 \cdot 10^{-6}$
ceHIm	$-9.618 \cdot 10^{-20}$	$-9.618 \cdot 10^{-20}$	$-1.612 \cdot 10^{-6}$	$1.216 \cdot 10^{-18}$	$1.216 \cdot 10^{-18}$	$-3.206 \cdot 10^{-6}$
ceHRe	$-5.449 \cdot 10^{-20}$	$-5.449 \cdot 10^{-20}$	$-1.596 \cdot 10^{-6}$	$3.036 \cdot 10^{-18}$	$3.036 \cdot 10^{-18}$	$-3.228 \cdot 10^{-6}$
ceWIm	$-3.111 \cdot 10^{-19}$	$-3.111 \cdot 10^{-19}$	$-1.607 \cdot 10^{-6}$	$3.959 \cdot 10^{-18}$	$3.959 \cdot 10^{-18}$	$-3.208 \cdot 10^{-6}$
ceWRe	$5.826 \cdot 10^{-19}$	$5.826 \cdot 10^{-19}$	$-1.596 \cdot 10^{-6}$	$1.821 \cdot 10^{-18}$	$1.821 \cdot 10^{-18}$	$-3.186 \cdot 10^{-6}$
cll1	$1.268 \cdot 10^{-8}$	$1.268 \cdot 10^{-8}$	0	$5.763 \cdot 10^{-10}$	$5.763 \cdot 10^{-10}$	0
sm	0	0	0	$4.101 \cdot 10^{-8}$	$4.101 \cdot 10^{-8}$	0

## 1.26 $HW^- \rightarrow \mu^- \bar{\nu}_{\mu}$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	-0.0002267	-0.0002267	0	$1.718 \cdot 10^{-6}$	$1.718 \cdot 10^{-6}$	0		
cHW	0.004325	0.004325	0	0.02029	0.02029	0		
cHWtil	$2.11\cdot 10^{-12}$	$2.11\cdot 10^{-12}$	0	0.0322	0.0322	0		
cH13	0.06678	0.06678	0	0.3092	0.3092	0		
ceHIm	$4.115 \cdot 10^{-11}$	$4.115 \cdot 10^{-11}$	$-2.916 \cdot 10^{-7}$	$7.486 \cdot 10^{-9}$	$7.486 \cdot 10^{-9}$	$-5.61\cdot10^{-7}$		
ceHRe	$-2.683 \cdot 10^{-9}$	$-2.683 \cdot 10^{-9}$	$-2.609 \cdot 10^{-7}$	$7.596 \cdot 10^{-9}$	$7.596 \cdot 10^{-9}$	$-5.793 \cdot 10^{-7}$		
ceWIm	$-8.845 \cdot 10^{-12}$	$-8.845 \cdot 10^{-12}$	$-2.94 \cdot 10^{-7}$	$2.258 \cdot 10^{-7}$	$2.258 \cdot 10^{-7}$	$-5.314 \cdot 10^{-7}$		
ceWRe	$-6.79 \cdot 10^{-9}$	$-6.79 \cdot 10^{-9}$	$-2.798 \cdot 10^{-7}$	$2.334 \cdot 10^{-7}$	$2.334 \cdot 10^{-7}$	$-5.57 \cdot 10^{-7}$		
cll1	0.0004372	0.0004372	0	$1.325 \cdot 10^{-5}$	$1.325 \cdot 10^{-5}$	0		

 ${\tt sm} \qquad \qquad 0 \qquad \qquad 0 \qquad \qquad 0.006324 \qquad 0.006324 \qquad \qquad 0$ 

## 1.27 $H\gamma \rightarrow b\bar{b}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$	
сНВ	$-8.692 \cdot 10^{-7}$	$-8.692 \cdot 10^{-7}$	0	0.005665	0.005665	0	
cHBtil	$-1.342 \cdot 10^{-8}$	$-1.342 \cdot 10^{-8}$	0	0.008721	0.008721	0	
cHDD	$-8.961 \cdot 10^{-5}$	$-8.961 \cdot 10^{-5}$	0	$3.047 \cdot 10^{-6}$	$3.047 \cdot 10^{-6}$	0	
cHW	$-4.7 \cdot 10^{-6}$	$-4.7 \cdot 10^{-6}$	0	0.01105	0.01105	0	
cHWB	$-1.75 \cdot 10^{-5}$	$-1.75 \cdot 10^{-5}$	0	0.008139	0.008139	0	
cHWBtil	$-2.111 \cdot 10^{-9}$	$-2.111 \cdot 10^{-9}$	0	0.009058	0.009058	0	
cHWtil	$5.316 \cdot 10^{-10}$	$5.316 \cdot 10^{-10}$	0	0.009012	0.009012	0	
cH13	$-2.625 \cdot 10^{-5}$	$-2.625 \cdot 10^{-5}$	0	$1.592 \cdot 10^{-6}$	$1.592 \cdot 10^{-6}$	0	
$\mathtt{cbBIm}$	$-4.48 \cdot 10^{-20}$	$-4.48 \cdot 10^{-20}$	0	1.725	1.725	0	
cbBRe	$-1.846 \cdot 10^{-6}$	$-1.846 \cdot 10^{-6}$	0	2.304	2.304	0	
$\mathtt{cbHIm}$	$-2.711 \cdot 10^{-20}$	$-2.711 \cdot 10^{-20}$	0	0.0004792	0.0004792	0	
cbHRe	-0.0004424	-0.0004424	0	0.0005586	0.0005586	0	
$\mathtt{cbWIm}$	$1.735 \cdot 10^{-19}$	$1.735 \cdot 10^{-19}$	0	0.4062	0.4062	0	
cbWRe	$1.155 \cdot 10^{-6}$	$1.155 \cdot 10^{-6}$	0	0.5653	0.5653	0	
cll1	$1.313 \cdot 10^{-5}$	$1.313 \cdot 10^{-5}$	0	$3.979 \cdot 10^{-7}$	$3.979 \cdot 10^{-7}$	0	
sm	0	0	0	$7.336 \cdot 10^{-5}$	$7.336 \cdot 10^{-5}$	0	

## 1.28 $H\gamma \rightarrow c\bar{c}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сНВ	$-4.574 \cdot 10^{-11}$	$-4.574 \cdot 10^{-11}$	0	0.01635	0.01635	0	
cHBtil	$3.083 \cdot 10^{-11}$	$3.083 \cdot 10^{-11}$	0	0.01639	0.01639	0	

cHDD	$-4.301 \cdot 10^{-6}$	$-4.301 \cdot 10^{-6}$	0	$1.462 \cdot 10^{-7}$	$1.462 \cdot 10^{-7}$	0
cHW	$-1.903 \cdot 10^{-6}$	$-1.903 \cdot 10^{-6}$	0	0.01256	0.01256	0
cHWB	$-1.051 \cdot 10^{-5}$	$-1.051 \cdot 10^{-5}$	0	0.01652	0.01652	0
cHWBtil	$7.847 \cdot 10^{-10}$	$7.847 \cdot 10^{-10}$	0	0.01654	0.01654	0
cHWtil	$4.306 \cdot 10^{-10}$	$4.306 \cdot 10^{-10}$	0	0.01128	0.01128	0
cH13	$-2.831 \cdot 10^{-5}$	$-2.831 \cdot 10^{-5}$	0	$1.716 \cdot 10^{-6}$	$1.716 \cdot 10^{-6}$	0
cll1	$1.415 \cdot 10^{-5}$	$1.415 \cdot 10^{-5}$	0	$4.29 \cdot 10^{-7}$	$4.29 \cdot 10^{-7}$	0
cuBIm	$1.967 \cdot 10^{-22}$	$1.966 \cdot 10^{-22}$	0.0002712	$4.706 \cdot 10^{-5}$	$4.706 \cdot 10^{-5}$	$2.975 \cdot 10^{-7}$
cuBRe	$7.485 \cdot 10^{-10}$	$7.485 \cdot 10^{-10}$	$1.336 \cdot 10^{-7}$	0.0001237	0.0001237	$2.425 \cdot 10^{-7}$
cuHIm	$3.176 \cdot 10^{-22}$	$3.706 \cdot 10^{-22}$	-0.1667	$1.001 \cdot 10^{-7}$	$1.001 \cdot 10^{-7}$	$2.996 \cdot 10^{-7}$
cuHRe	$-5.521 \cdot 10^{-6}$	$-5.521 \cdot 10^{-6}$	$1.268 \cdot 10^{-7}$	$1.674 \cdot 10^{-7}$	$1.674 \cdot 10^{-7}$	$2.987 \cdot 10^{-7}$
cuWIm	$5.269 \cdot 10^{-25}$	$3.395 \cdot 10^{-25}$	0.3556	$8.218 \cdot 10^{-6}$	$8.218 \cdot 10^{-6}$	$2.799 \cdot 10^{-7}$
cuWRe	$4.008 \cdot 10^{-10}$	$4.008 \cdot 10^{-10}$	$1.497 \cdot 10^{-7}$	$3.547 \cdot 10^{-5}$	$3.547 \cdot 10^{-5}$	$2.819 \cdot 10^{-7}$
sm	0	0	0	$4.554 \cdot 10^{-5}$	$4.554 \cdot 10^{-5}$	0

## 1.29 $H\gamma \rightarrow d\bar{d}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHB	$-1.243 \cdot 10^{-12}$	$-1.243 \cdot 10^{-12}$	0	0.005761	0.005761	0	
cHBtil	$-1.022 \cdot 10^{-15}$	$-1.022 \cdot 10^{-15}$	0	0.005159	0.005159	0	
cHDD	$-1.303 \cdot 10^{-11}$	$-1.303 \cdot 10^{-11}$	0	$4.432 \cdot 10^{-13}$	$4.432 \cdot 10^{-13}$	0	
cHW	$-2.46 \cdot 10^{-12}$	$-2.46 \cdot 10^{-12}$	0	0.009891	0.009891	0	
cHWB	$-2.125 \cdot 10^{-11}$	$-2.125 \cdot 10^{-11}$	0	0.007448	0.007448	0	
cHWBtil	$-2.65 \cdot 10^{-15}$	$-2.65 \cdot 10^{-15}$	0	0.00907	0.00907	0	
cHWtil	$-5.646 \cdot 10^{-16}$	$-5.646 \cdot 10^{-16}$	0	0.008947	0.008947	0	
cHl3	$-2.805 \cdot 10^{-11}$	$-2.805 \cdot 10^{-11}$	0	$1.701 \cdot 10^{-12}$	$1.701 \cdot 10^{-12}$	0	
$\mathtt{cdBIm}$	$3.166 \cdot 10^{-36}$	$1.565 \cdot 10^{-37}$	0.9506	$1.596 \cdot 10^{-9}$	$1.596 \cdot 10^{-9}$	$-1.191 \cdot 10^{-6}$	
cdBRe	$-8.697 \cdot 10^{-20}$	$-8.697 \cdot 10^{-20}$	$-5.864 \cdot 10^{-7}$	$1.322 \cdot 10^{-9}$	$1.322 \cdot 10^{-9}$	$-1.211 \cdot 10^{-6}$	

cdHIm	$8.078 \cdot 10^{-28}$	$3.081 \cdot 10^{-38}$	1	$5.533 \cdot 10^{-13}$	$5.533 \cdot 10^{-13}$	$-1.175 \cdot 10^{-6}$
cdHRe	$-8.439 \cdot 10^{-11}$	$-8.439 \cdot 10^{-11}$	$-5.806 \cdot 10^{-7}$	$2.558 \cdot 10^{-12}$	$2.558 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$
$\mathtt{cdWIm}$	$-1.754 \cdot 10^{-36}$	$-6.254 \cdot 10^{-37}$	0.6434	$4.51 \cdot 10^{-10}$	$4.51 \cdot 10^{-10}$	$-1.175 \cdot 10^{-6}$
cdWRe	$4.209 \cdot 10^{-20}$	$4.209 \cdot 10^{-20}$	$-5.94 \cdot 10^{-7}$	$4.192 \cdot 10^{-10}$	$4.192 \cdot 10^{-10}$	$-1.169 \cdot 10^{-6}$
cll1	$1.403 \cdot 10^{-11}$	$1.403 \cdot 10^{-11}$	0	$4.252 \cdot 10^{-13}$	$4.252 \cdot 10^{-13}$	0
sm	0	0	0	$6.96 \cdot 10^{-10}$	$6.96 \cdot 10^{-10}$	0

## **1.30** $H\gamma \to e^+e^-$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$		
cHB	$-4.505 \cdot 10^{-13}$	$-4.505 \cdot 10^{-13}$	0	0.02063	0.02063	0		
cHBtil	$-8.806 \cdot 10^{-17}$	$-8.806 \cdot 10^{-17}$	0	0.02303	0.02303	0		
cHDD	$-4.852 \cdot 10^{-13}$	$-4.852 \cdot 10^{-13}$	0	$1.65 \cdot 10^{-14}$	$1.65 \cdot 10^{-14}$	0		
cHW	$-8.214 \cdot 10^{-13}$	$-8.214 \cdot 10^{-13}$	0	0.005248	0.005248	0		
cHWB	$-7.555 \cdot 10^{-13}$	$-7.555 \cdot 10^{-13}$	0	0.005169	0.005169	0		
cHWBtil	$4.399 \cdot 10^{-17}$	$4.399 \cdot 10^{-17}$	0	0.007524	0.007524	0		
cHWtil	$4.293 \cdot 10^{-16}$	$4.293 \cdot 10^{-16}$	0	0.005519	0.005519	0		
cH13	$-1.333 \cdot 10^{-12}$	$-1.333 \cdot 10^{-12}$	0	$8.08 \cdot 10^{-14}$	$8.08 \cdot 10^{-14}$	0		
ceBIm	$-2.546 \cdot 10^{-39}$	$-2.362 \cdot 10^{-39}$	0.07214	$6.464 \cdot 10^{-12}$	$6.464 \cdot 10^{-12}$	$-3.202 \cdot 10^{-6}$		
ceBRe	$-4.952 \cdot 10^{-23}$	$-4.952 \cdot 10^{-23}$	$-1.616 \cdot 10^{-6}$	$6.464 \cdot 10^{-12}$	$6.464 \cdot 10^{-12}$	$-3.202 \cdot 10^{-6}$		
$\mathtt{ceHIm}$	$1.01 \cdot 10^{-28}$	$6.982 \cdot 10^{-42}$	1	$3.692 \cdot 10^{-14}$	$3.692 \cdot 10^{-14}$	$-3.196 \cdot 10^{-6}$		
ceHRe	$-4.326 \cdot 10^{-13}$	$-4.326 \cdot 10^{-13}$	$-1.595 \cdot 10^{-6}$	$1.311 \cdot 10^{-14}$	$1.311 \cdot 10^{-14}$	$-3.203 \cdot 10^{-6}$		
ceWIm	$1.456 \cdot 10^{-39}$	$9.967 \cdot 10^{-40}$	0.3154	$1.854 \cdot 10^{-12}$	$1.854 \cdot 10^{-12}$	$-3.237 \cdot 10^{-6}$		
ceWRe	$-1.878 \cdot 10^{-23}$	$-1.878 \cdot 10^{-23}$	$-1.597 \cdot 10^{-6}$	$1.591 \cdot 10^{-12}$	$1.591 \cdot 10^{-12}$	$-3.205 \cdot 10^{-6}$		
cll1	$6.664 \cdot 10^{-13}$	$6.664 \cdot 10^{-13}$	0	$2.02 \cdot 10^{-14}$	$2.02 \cdot 10^{-14}$	0		
sm	0	0	0	$4.869 \cdot 10^{-12}$	$4.869 \cdot 10^{-12}$	0		

## **1.31** $H\gamma \rightarrow t\bar{t}$

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHB	-0.01944	-0.01944	0	0.01904	0.01904	0	
cHBtil	$-4.574 \cdot 10^{-7}$	$-4.574 \cdot 10^{-7}$	0	0.01725	0.01725	0	
cHDD	-0.09008	-0.09008	0	0.003063	0.003063	0	
cHW	-0.1179	-0.1179	0	0.01476	0.01476	0	
cHWB	-0.09372	-0.09372	0	0.01725	0.01725	0	
cHWBtil	$-9.602 \cdot 10^{-6}$	$-9.602 \cdot 10^{-6}$	0	0.01215	0.01215	0	
cHWtil	0.0004188	0.0004188	0	0.01502	0.01502	0	
cH13	-0.2014	-0.2014	0	0.01221	0.01221	0	
cll1	0.1007	0.1007	0	0.003052	0.003052	0	
ctBIm	$-1.633 \cdot 10^{-16}$	$-1.633 \cdot 10^{-16}$	0	1.461	1.461	0	
ctBRe	0.9155	0.9155	0	0.9762	0.9762	0	
$\mathtt{ctHIm}$	$1.044 \cdot 10^{-17}$	$1.044 \cdot 10^{-17}$	0	0.001865	0.001865	0	
ctHRe	-0.05482	-0.05482	0	0.001675	0.001675	0	
$\mathtt{ctWIm}$	$9.107 \cdot 10^{-18}$	$9.107 \cdot 10^{-18}$	0	0.5354	0.5354	0	
ctWRe	0.4903	0.4903	0	0.2799	0.2799	0	
sm	0	0	0	0.3946	0.3946	0	

# **1.32** $Hz \to \mu^+ \mu^-$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сНВ	0.0002874	0.0002874	0	0.003395	0.003395	0	
cHBtil	$3.039 \cdot 10^{-7}$	$3.039 \cdot 10^{-7}$	0	0.003827	0.003827	0	
cHDD	$6.263 \cdot 10^{-5}$	$6.263 \cdot 10^{-5}$	0	$2.718 \cdot 10^{-5}$	$2.718 \cdot 10^{-5}$	0	
cHW	0.001352	0.001352	0	0.006866	0.006866	0	

cHWB	0.001045	0.001045	0	0.003351	0.003351	0
cHWBtil	$-2.035 \cdot 10^{-7}$	$-2.035 \cdot 10^{-7}$	0	0.002695	0.002695	0
cHWtil	$-1.924 \cdot 10^{-7}$	$-1.924 \cdot 10^{-7}$	0	0.007812	0.007812	0
сНе	-0.02403	-0.02403	0	0.1965	0.1965	0
cHl1	0.04171	0.04171	0	0.2743	0.2743	0
cHl3	0.03809	0.03809	0	0.2497	0.2497	0
ceBIm	$1.674 \cdot 10^{-11}$	$1.674 \cdot 10^{-11}$	$-2.986 \cdot 10^{-7}$	$1.278 \cdot 10^{-8}$	$1.278 \cdot 10^{-8}$	$-5.477 \cdot 10^{-7}$
ceBRe	$-5.53 \cdot 10^{-10}$	$-5.53 \cdot 10^{-10}$	$-2.713 \cdot 10^{-7}$	$1.278 \cdot 10^{-8}$	$1.278 \cdot 10^{-8}$	$-6.259 \cdot 10^{-7}$
ceHIm	$-2.471 \cdot 10^{-15}$	$-2.471 \cdot 10^{-15}$	$-2.833 \cdot 10^{-7}$	$7.492 \cdot 10^{-9}$	$7.492 \cdot 10^{-9}$	$-5.74 \cdot 10^{-7}$
ceHRe	$1.747 \cdot 10^{-9}$	$1.747 \cdot 10^{-9}$	$-2.863 \cdot 10^{-7}$	$7.454 \cdot 10^{-9}$	$7.454 \cdot 10^{-9}$	$-5.768 \cdot 10^{-7}$
$\mathtt{ceWIm}$	$3.127 \cdot 10^{-11}$	$3.127 \cdot 10^{-11}$	$-2.879 \cdot 10^{-7}$	$4.457 \cdot 10^{-8}$	$4.457 \cdot 10^{-8}$	$-5.609 \cdot 10^{-7}$
ceWRe	$-1.033 \cdot 10^{-9}$	$-1.033 \cdot 10^{-9}$	$-2.905 \cdot 10^{-7}$	$1.063 \cdot 10^{-7}$	$1.063 \cdot 10^{-7}$	$-5.645 \cdot 10^{-7}$
cll1	0.0002935	0.0002935	0	$8.897 \cdot 10^{-6}$	$8.897 \cdot 10^{-6}$	0
sm	0	0	0	0.001214	0.001214	0

### 1.33 $Hz \rightarrow \nu_{\tau} \bar{\nu}_{\tau}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сНВ	0.001038	0.001038	0	0.000843	0.000843	0	
cHBtil	$-7.214 \cdot 10^{-20}$	$-7.214 \cdot 10^{-20}$	0	0.001041	0.001041	0	
cHDD	$1.112 \cdot 10^{-18}$	$1.112 \cdot 10^{-18}$	0	$6.426 \cdot 10^{-35}$	$6.426 \cdot 10^{-35}$	0	
cHW	0.002565	0.002565	0	0.007266	0.007266	0	
cHWB	0.002373	0.002373	0	0.0036	0.0036	0	
cHWBtil	$1.4 \cdot 10^{-19}$	$1.4 \cdot 10^{-19}$	0	0.002774	0.002774	0	
cHWtil	$1.446 \cdot 10^{-19}$	$1.446 \cdot 10^{-19}$	0	0.007267	0.007267	0	
cHl1	-0.05062	-0.05062	0	0.1845	0.1845	0	
cH13	0.05125	0.05125	0	0.1837	0.1837	0	
cll1	0.0004334	0.0004334	0	$1.314 \cdot 10^{-5}$	$1.314 \cdot 10^{-5}$	0	

### **1.34** $Hz \rightarrow b\bar{b}$

		interfer	rence		square	
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
сНВ	0.001018	0.001018	0	0.001198	0.001198	0
cHBtil	$3.149 \cdot 10^{-7}$	$3.149 \cdot 10^{-7}$	0	0.001324	0.001324	0
cHDD	0.0004274	0.0004274	0	$1.815 \cdot 10^{-5}$	$1.815 \cdot 10^{-5}$	0
cHQ1	0.0282	0.0282	0	0.128	0.128	0
cHQ3	0.2088	0.2088	0	0.899	0.899	0
cHW	0.006118	0.006118	0	0.02043	0.02043	0
cHWB	0.003144	0.003144	0	0.003798	0.003798	0
cHWBtil	$5.057 \cdot 10^{-8}$	$5.057 \cdot 10^{-8}$	0	0.003342	0.003342	0
cHWtil	$-4.1\cdot10^{-7}$	$-4.1 \cdot 10^{-7}$	0	0.03334	0.03334	0
cHbq	-0.04058	-0.04058	0	1.026	1.026	0
cH13	-0.001263	-0.001263	0	$7.657 \cdot 10^{-5}$	$7.657 \cdot 10^{-5}$	0
$\mathtt{cbBIm}$	$-1.846 \cdot 10^{-7}$	$-1.846 \cdot 10^{-7}$	0	0.4598	0.4598	0
cbBRe	-0.0006981	-0.0006981	0	0.2011	0.2011	0
$\mathtt{cbHIm}$	$-9.466 \cdot 10^{-9}$	$-9.466 \cdot 10^{-9}$	0	0.06374	0.06374	0
cbHRe	-0.0004586	-0.0004586	0	0.06173	0.06173	0
$\mathtt{cbWIm}$	$-1.091 \cdot 10^{-6}$	$-1.091 \cdot 10^{-6}$	0	1.568	1.568	0
cbWRe	-0.001306	-0.001306	0	1.573	1.573	0
cll1	0.0006315	0.0006315	0	$1.914 \cdot 10^{-5}$	$1.914 \cdot 10^{-5}$	0
sm	0	0	0	0.004258	0.004258	0

1.35  $Hz \rightarrow s\bar{s}$ 

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHB	0.001047	0.001047	0	0.001219	0.001219	0
cHBtil	$4.18 \cdot 10^{-7}$	$4.18 \cdot 10^{-7}$	0	0.001611	0.001611	0
cHDD	0.0004236	0.0004236	0	$9.47 \cdot 10^{-6}$	$9.47\cdot 10^{-6}$	0
cHW	0.007825	0.007825	0	0.026	0.026	0
cHWB	0.002857	0.002857	0	0.003299	0.003299	0
cHWBtil	$-1.13 \cdot 10^{-7}$	$-1.13 \cdot 10^{-7}$	0	0.003655	0.003655	0
cHWtil	$-3.427 \cdot 10^{-7}$	$-3.427 \cdot 10^{-7}$	0	0.03044	0.03044	0
cHd	-0.04266	-0.04266	0	1.047	1.047	0
cHj1	0.245	0.245	0	1.049	1.049	0
cHj3	0.07657	0.07657	0	0.3278	0.3278	0
cH13	-0.0009094	-0.0009094	0	$5.513 \cdot 10^{-5}$	$5.513 \cdot 10^{-5}$	0
$\mathtt{cdBIm}$	$7.747 \cdot 10^{-12}$	$7.747 \cdot 10^{-12}$	$3.098 \cdot 10^{-7}$	$1.275 \cdot 10^{-7}$	$1.275 \cdot 10^{-7}$	$6.276 \cdot 10^{-7}$
cdBRe	$-8.321 \cdot 10^{-9}$	$-8.321 \cdot 10^{-9}$	$3.125 \cdot 10^{-7}$	$2.836 \cdot 10^{-8}$	$2.836 \cdot 10^{-8}$	$6.347 \cdot 10^{-7}$
$\mathtt{cdHIm}$	$2.034 \cdot 10^{-14}$	$2.034 \cdot 10^{-14}$	$3.442 \cdot 10^{-7}$	$1.75 \cdot 10^{-8}$	$1.75 \cdot 10^{-8}$	$6.286 \cdot 10^{-7}$
cdHRe	$-9.976 \cdot 10^{-9}$	$-9.976 \cdot 10^{-9}$	$3.208 \cdot 10^{-7}$	$1.776 \cdot 10^{-8}$	$1.776 \cdot 10^{-8}$	$6.758 \cdot 10^{-7}$
$\mathtt{cdWIm}$	$-7.024 \cdot 10^{-11}$	$-7.024 \cdot 10^{-11}$	$3.132 \cdot 10^{-7}$	$1.269 \cdot 10^{-7}$	$1.269 \cdot 10^{-7}$	$6.304 \cdot 10^{-7}$
cdWRe	$-1.554 \cdot 10^{-8}$	$-1.554 \cdot 10^{-8}$	$3.218 \cdot 10^{-7}$	$3.341 \cdot 10^{-7}$	$3.341 \cdot 10^{-7}$	$6.285 \cdot 10^{-7}$
cll1	0.0004547	0.0004547	0	$1.378 \cdot 10^{-5}$	$1.378 \cdot 10^{-5}$	0
sm	0	0	0	0.008918	0.008918	0

# **1.36** $Hz \rightarrow t\bar{t}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHB	-0.01394	-0.01394	0	0.005794	0.005794	0
cHBtil	$-7.653 \cdot 10^{-7}$	$-7.653 \cdot 10^{-7}$	0	0.004456	0.004456	0
cHDD	0.008897	0.008897	0	0.01713	0.01713	0
cHQ1	2.064	2.064	0	0.9798	0.9798	0

cHQ3	-2.031	-2.031	0	0.8042	0.8042	0
cHW	-0.0769	-0.0769	0	0.0341	0.0341	0
cHWB	-0.01667	-0.01667	0	0.007943	0.007943	0
cHWBtil	$1.749 \cdot 10^{-5}$	$1.749 \cdot 10^{-5}$	0	0.006077	0.006077	0
cHWtil	$1.179 \cdot 10^{-6}$	$1.179 \cdot 10^{-6}$	0	0.02563	0.02563	0
cH13	-0.7089	-0.7089	0	0.04298	0.04298	0
cHt	-2.245	-2.245	0	1.49	1.49	0
cll1	0.3545	0.3545	0	0.01074	0.01074	0
ctBIm	$-2.318 \cdot 10^{-5}$	$-2.318 \cdot 10^{-5}$	0	0.8384	0.8384	0
ctBRe	-0.01895	-0.01895	0	0.8477	0.8477	0
ctHIm	$-3.021 \cdot 10^{-5}$	$-3.021 \cdot 10^{-5}$	0	0.06915	0.06915	0
ctHRe	-0.05194	-0.05194	0	0.06144	0.06144	0
ctWIm	-0.0004591	-0.0004591	0	2.043	2.043	0
ctWRe	0.03539	0.03539	0	2.956	2.956	0
sm	0	0	0	1.795	1.795	0

#### 1.37 $Hz \rightarrow u\bar{u}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHB	0.0005568	0.0005568	0	0.005088	0.005088	0	
cHBtil	$4.331 \cdot 10^{-8}$	$4.331 \cdot 10^{-8}$	0	0.003131	0.003131	0	
cHDD	0.0003617	0.0003617	0	$2.8 \cdot 10^{-5}$	$2.8 \cdot 10^{-5}$	0	
cHW	0.009734	0.009734	0	0.0391	0.0391	0	
cHWB	0.002452	0.002452	0	0.003889	0.003889	0	
cHWBtil	$-1.607 \cdot 10^{-7}$	$-1.607 \cdot 10^{-7}$	0	0.003441	0.003441	0	
cHWtil	$6.033 \cdot 10^{-7}$	$6.033 \cdot 10^{-7}$	0	0.02811	0.02811	0	
cHj1	-0.1639	-0.1639	0	0.8501	0.8501	0	
сНј3	0.2022	0.2022	0	1.049	1.049	0	

cH13	-0.002781	-0.002781	0	0.0001686	0.0001686	0
cHu	0.08548	0.08548	0	1.049	1.049	0
cll1	0.00139	0.00139	0	$4.214 \cdot 10^{-5}$	$4.214 \cdot 10^{-5}$	0
cuBIm	$-5.858 \cdot 10^{-15}$	$-5.858 \cdot 10^{-15}$	$-7.17\cdot10^{-7}$	$6.667 \cdot 10^{-11}$	$6.667 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$
cuBRe	$2.591 \cdot 10^{-12}$	$2.591 \cdot 10^{-12}$	$-7.333 \cdot 10^{-7}$	$7.081 \cdot 10^{-11}$	$7.081 \cdot 10^{-11}$	$-1.441 \cdot 10^{-6}$
cuHIm	$-3.159 \cdot 10^{-18}$	$-3.159 \cdot 10^{-18}$	$-7.281 \cdot 10^{-7}$	$9.364 \cdot 10^{-12}$	$9.364 \cdot 10^{-12}$	$-1.452 \cdot 10^{-6}$
cuHRe	$2.611 \cdot 10^{-13}$	$2.611 \cdot 10^{-13}$	$-7.277 \cdot 10^{-7}$	$9.405 \cdot 10^{-12}$	$9.405 \cdot 10^{-12}$	$-1.446 \cdot 10^{-6}$
cuWIm	$2.803 \cdot 10^{-15}$	$2.803 \cdot 10^{-15}$	$-7.493 \cdot 10^{-7}$	$2.464 \cdot 10^{-10}$	$2.464 \cdot 10^{-10}$	$-1.42 \cdot 10^{-6}$
cuWRe	$-4.838 \cdot 10^{-12}$	$-4.838 \cdot 10^{-12}$	$-7.234 \cdot 10^{-7}$	$2.469 \cdot 10^{-10}$	$2.469 \cdot 10^{-10}$	$-1.458 \cdot 10^{-6}$
sm	0	0	0	0.009243	0.009243	0

## 1.38 $W^+W^- \rightarrow Hb\bar{b}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$-2.856 \cdot 10^{-10}$	$-2.856 \cdot 10^{-10}$	0	$5.123 \cdot 10^{-11}$	$5.123 \cdot 10^{-11}$	0	
сНВ	$-2.39 \cdot 10^{-8}$	$-2.39 \cdot 10^{-8}$	0	$2.709 \cdot 10^{-10}$	$2.709 \cdot 10^{-10}$	0	
cHBtil	$2.54 \cdot 10^{-9}$	$2.54 \cdot 10^{-9}$	0	$6.806 \cdot 10^{-11}$	$6.806 \cdot 10^{-11}$	0	
cHDD	$-6.029 \cdot 10^{-8}$	$-6.029 \cdot 10^{-8}$	0	$1.344 \cdot 10^{-9}$	$1.344 \cdot 10^{-9}$	0	
cHQ1	$3.333 \cdot 10^{-6}$	$3.333 \cdot 10^{-6}$	0	$6.986 \cdot 10^{-7}$	$6.986 \cdot 10^{-7}$	0	
cHQ3	$-1.802 \cdot 10^{-6}$	$-1.802 \cdot 10^{-6}$	0	$9.419 \cdot 10^{-7}$	$9.419 \cdot 10^{-7}$	0	
cHW	$-3.775 \cdot 10^{-8}$	$-3.775 \cdot 10^{-8}$	0	$7.246 \cdot 10^{-8}$	$7.246 \cdot 10^{-8}$	0	
cHWB	$-1.311 \cdot 10^{-7}$	$-1.311 \cdot 10^{-7}$	0	$2.993 \cdot 10^{-8}$	$2.993 \cdot 10^{-8}$	0	
cHWBtil	$-3.545 \cdot 10^{-8}$	$-3.545 \cdot 10^{-8}$	0	$3.989 \cdot 10^{-8}$	$3.989 \cdot 10^{-8}$	0	
cHWtil	$2.929 \cdot 10^{-7}$	$2.929 \cdot 10^{-7}$	0	$1.545 \cdot 10^{-7}$	$1.545 \cdot 10^{-7}$	0	
сНЪq	$-4.703 \cdot 10^{-8}$	$-4.703 \cdot 10^{-8}$	0	$2.035 \cdot 10^{-7}$	$2.035 \cdot 10^{-7}$	0	
cH13	$-1.636 \cdot 10^{-6}$	$-1.636 \cdot 10^{-6}$	0	$1.487 \cdot 10^{-7}$	$1.487 \cdot 10^{-7}$	0	
$\mathtt{cHtbIm}$	$1.952 \cdot 10^{-8}$	$1.952 \cdot 10^{-8}$	0	$7.624 \cdot 10^{-7}$	$7.624 \cdot 10^{-7}$	0	
cHtbRe	$-7.407 \cdot 10^{-8}$	$-7.407 \cdot 10^{-8}$	0	$6.31 \cdot 10^{-7}$	$6.31 \cdot 10^{-7}$	0	

cW	$-7.948 \cdot 10^{-8}$	$-7.948 \cdot 10^{-8}$	0	$8.176 \cdot 10^{-7}$	$8.176 \cdot 10^{-7}$	0
cWtil	$-1.009 \cdot 10^{-8}$	$-1.009 \cdot 10^{-8}$	0	$8.215 \cdot 10^{-7}$	$8.215 \cdot 10^{-7}$	0
cbBIm	$2.452 \cdot 10^{-9}$	$2.452 \cdot 10^{-9}$	0	$6.149 \cdot 10^{-9}$	$6.149 \cdot 10^{-9}$	0
cbBRe	$2.67 \cdot 10^{-9}$	$2.67 \cdot 10^{-9}$	0	$7.848 \cdot 10^{-9}$	$7.848 \cdot 10^{-9}$	0
$\mathtt{cbHIm}$	$1.025 \cdot 10^{-8}$	$1.025 \cdot 10^{-8}$	0	$1.014 \cdot 10^{-7}$	$1.014 \cdot 10^{-7}$	0
cbHRe	$-9.34 \cdot 10^{-9}$	$-9.34 \cdot 10^{-9}$	0	$7.957 \cdot 10^{-8}$	$7.957 \cdot 10^{-8}$	0
$\mathtt{cbWIm}$	$-5.085 \cdot 10^{-8}$	$-5.085 \cdot 10^{-8}$	0	$9.922 \cdot 10^{-6}$	$9.922 \cdot 10^{-6}$	0
cbWRe	$1.145 \cdot 10^{-7}$	$1.145 \cdot 10^{-7}$	0	$3.349 \cdot 10^{-6}$	$3.349 \cdot 10^{-6}$	0
cll1	$8.178 \cdot 10^{-7}$	$8.178 \cdot 10^{-7}$	0	$3.718 \cdot 10^{-8}$	$3.718 \cdot 10^{-8}$	0
$\mathtt{ctHIm}$	$-2.695 \cdot 10^{-7}$	$-2.695 \cdot 10^{-7}$	0	$1.026 \cdot 10^{-8}$	$1.026 \cdot 10^{-8}$	0
ctHRe	$1.872 \cdot 10^{-6}$	$1.872 \cdot 10^{-6}$	0	$7.194 \cdot 10^{-8}$	$7.194 \cdot 10^{-8}$	0
$\mathtt{ctWIm}$	$3.335 \cdot 10^{-7}$	$3.335 \cdot 10^{-7}$	0	$3.531 \cdot 10^{-6}$	$3.531 \cdot 10^{-6}$	0
ctWRe	$-1.347 \cdot 10^{-6}$	$-1.347 \cdot 10^{-6}$	0	$5.66 \cdot 10^{-6}$	$5.66 \cdot 10^{-6}$	0
$\mathtt{sm}$	0	0	0	$2.242 \cdot 10^{-6}$	$2.242 \cdot 10^{-6}$	0

### 1.39 $W^+W^- \rightarrow Hc\bar{c}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сН	$-9.787 \cdot 10^{-12}$	$-9.787 \cdot 10^{-12}$	0	$5.275 \cdot 10^{-12}$	$5.275 \cdot 10^{-12}$	0	
сНВ	$1.826 \cdot 10^{-8}$	$1.826 \cdot 10^{-8}$	0	$9.398 \cdot 10^{-10}$	$9.398 \cdot 10^{-10}$	0	
cHBtil	$6.37 \cdot 10^{-9}$	$6.37 \cdot 10^{-9}$	0	$7.25 \cdot 10^{-10}$	$7.25 \cdot 10^{-10}$	0	
cHDD	$-1.491 \cdot 10^{-8}$	$-1.491 \cdot 10^{-8}$	0	$3.547 \cdot 10^{-10}$	$3.547 \cdot 10^{-10}$	0	
cHW	$1.149 \cdot 10^{-5}$	$1.149 \cdot 10^{-5}$	0	0.0001781	0.0001781	0	
cHWB	$-3.462 \cdot 10^{-8}$	$-3.462 \cdot 10^{-8}$	0	$9.93 \cdot 10^{-7}$	$9.93 \cdot 10^{-7}$	0	
cHWBtil	$-1.174 \cdot 10^{-8}$	$-1.174 \cdot 10^{-8}$	0	$7.329 \cdot 10^{-8}$	$7.329 \cdot 10^{-8}$	0	
cHWtil	$-2.556 \cdot 10^{-9}$	$-2.556 \cdot 10^{-9}$	0	$1.018 \cdot 10^{-8}$	$1.018 \cdot 10^{-8}$	0	
cHj1	$-9.762 \cdot 10^{-6}$	$-9.762 \cdot 10^{-6}$	0	$3.642 \cdot 10^{-7}$	$3.642 \cdot 10^{-7}$	0	
cHj3	$1.71\cdot 10^{-6}$	$1.71 \cdot 10^{-6}$	0	$1.095 \cdot 10^{-6}$	$1.095 \cdot 10^{-6}$	0	

cH13	$-2.532 \cdot 10^{-7}$	$-2.532 \cdot 10^{-7}$	0	$2.302 \cdot 10^{-8}$	$2.302 \cdot 10^{-8}$	0
cHu	$3.642 \cdot 10^{-8}$	$3.642 \cdot 10^{-8}$	0	$4.196 \cdot 10^{-8}$	$4.196 \cdot 10^{-8}$	0
$\mathtt{cHudIm}$	$-1.762 \cdot 10^{-18}$	$-1.762 \cdot 10^{-18}$	$4.54 \cdot 10^{-7}$	$2.23 \cdot 10^{-24}$	$2.23 \cdot 10^{-24}$	$9.416 \cdot 10^{-7}$
cHudRe	$-4.867 \cdot 10^{-18}$	$-4.867 \cdot 10^{-18}$	$4.726 \cdot 10^{-7}$	$1.369 \cdot 10^{-24}$	$1.369 \cdot 10^{-24}$	$8.767 \cdot 10^{-7}$
cW	-0.0003101	-0.0003101	0	0.0002887	0.0002887	0
cWtil	$5.468 \cdot 10^{-8}$	$5.468 \cdot 10^{-8}$	0	$1.078 \cdot 10^{-6}$	$1.078 \cdot 10^{-6}$	0
$\mathtt{cdHIm}$	$8.855 \cdot 10^{-14}$	$8.855 \cdot 10^{-14}$	$3.162 \cdot 10^{-7}$	$1.728 \cdot 10^{-21}$	$1.728 \cdot 10^{-21}$	$6.367 \cdot 10^{-7}$
cdHRe	$5.982 \cdot 10^{-14}$	$5.982 \cdot 10^{-14}$	$3.176 \cdot 10^{-7}$	$1.182 \cdot 10^{-21}$	$1.182 \cdot 10^{-21}$	$5.922 \cdot 10^{-7}$
$\mathtt{cdWIm}$	$-1.003 \cdot 10^{-13}$	$-1.003 \cdot 10^{-13}$	$2.991 \cdot 10^{-7}$	$4.948 \cdot 10^{-19}$	$4.948 \cdot 10^{-19}$	$6.265 \cdot 10^{-7}$
cdWRe	$-3.992 \cdot 10^{-12}$	$-3.992 \cdot 10^{-12}$	$3.257 \cdot 10^{-7}$	$4.185 \cdot 10^{-19}$	$4.185 \cdot 10^{-19}$	$6.213 \cdot 10^{-7}$
cll1	$1.266 \cdot 10^{-7}$	$1.266 \cdot 10^{-7}$	0	$5.755 \cdot 10^{-9}$	$5.755 \cdot 10^{-9}$	0
cuBIm	$-3.836 \cdot 10^{-12}$	$-3.836 \cdot 10^{-12}$	$1.564 \cdot 10^{-7}$	$4.856 \cdot 10^{-13}$	$4.856 \cdot 10^{-13}$	$2.883 \cdot 10^{-7}$
cuBRe	$-1.187 \cdot 10^{-11}$	$-1.187 \cdot 10^{-11}$	$1.684 \cdot 10^{-7}$	$3.289 \cdot 10^{-13}$	$3.289 \cdot 10^{-13}$	$3.04 \cdot 10^{-7}$
cuHIm	$4.774 \cdot 10^{-12}$	$4.774 \cdot 10^{-12}$	$1.466 \cdot 10^{-7}$	$1.336 \cdot 10^{-12}$	$1.336 \cdot 10^{-12}$	$2.994 \cdot 10^{-7}$
cuHRe	$-2.26 \cdot 10^{-11}$	$-2.26 \cdot 10^{-11}$	$1.328 \cdot 10^{-7}$	$2.352 \cdot 10^{-12}$	$2.352 \cdot 10^{-12}$	$2.976 \cdot 10^{-7}$
$\mathtt{cuWIm}$	$-9.35 \cdot 10^{-11}$	$-9.35 \cdot 10^{-11}$	$1.39 \cdot 10^{-7}$	$4.339 \cdot 10^{-10}$	$4.339 \cdot 10^{-10}$	$2.765 \cdot 10^{-7}$
cuWRe	$-2.637 \cdot 10^{-10}$	$-2.637 \cdot 10^{-10}$	$1.138 \cdot 10^{-7}$	$8.412 \cdot 10^{-11}$	$8.412 \cdot 10^{-11}$	$2.734 \cdot 10^{-7}$
sm	0	0	0	$8.685 \cdot 10^{-7}$	$8.685 \cdot 10^{-7}$	0

## 1.40 $W^+W^- \rightarrow Hd\bar{d}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сН	$2.344 \cdot 10^{-16}$	$2.344 \cdot 10^{-16}$	0	$7.361 \cdot 10^{-16}$	$7.361 \cdot 10^{-16}$	0
сНВ	$-1.107 \cdot 10^{-8}$	$-1.107 \cdot 10^{-8}$	0	$2.06 \cdot 10^{-10}$	$2.06 \cdot 10^{-10}$	0
cHBtil	$-4.968 \cdot 10^{-10}$	$-4.968 \cdot 10^{-10}$	0	$1.756 \cdot 10^{-11}$	$1.756 \cdot 10^{-11}$	0
cHDD	$-2.96 \cdot 10^{-6}$	$-2.96 \cdot 10^{-6}$	0	$3.755 \cdot 10^{-8}$	$3.755 \cdot 10^{-8}$	0
cHW	$-3.089 \cdot 10^{-6}$	$-3.089 \cdot 10^{-6}$	0	$6.018 \cdot 10^{-6}$	$6.018 \cdot 10^{-6}$	0
cHWB	$-6.003 \cdot 10^{-8}$	$-6.003 \cdot 10^{-8}$	0	$1.382 \cdot 10^{-8}$	$1.382 \cdot 10^{-8}$	0

cHWBtil	$8.51 \cdot 10^{-11}$	$8.51 \cdot 10^{-11}$	0	$1.103 \cdot 10^{-8}$	$1.103 \cdot 10^{-8}$	0
cHWtil	$-7.2\cdot10^{-8}$	$-7.2\cdot10^{-8}$	0	$4.361 \cdot 10^{-7}$	$4.361 \cdot 10^{-7}$	0
cHd	$-2.212 \cdot 10^{-8}$	$-2.212 \cdot 10^{-8}$	0	$2.559 \cdot 10^{-7}$	$2.559 \cdot 10^{-7}$	0
cHj1	$7.759 \cdot 10^{-7}$	$7.759 \cdot 10^{-7}$	0	$5.126 \cdot 10^{-7}$	$5.126 \cdot 10^{-7}$	0
сНј3	$-6.81 \cdot 10^{-6}$	$-6.81 \cdot 10^{-6}$	0	$9.093 \cdot 10^{-6}$	$9.093 \cdot 10^{-6}$	0
cH13	$-1.759 \cdot 10^{-6}$	$-1.759 \cdot 10^{-6}$	0	$1.6 \cdot 10^{-7}$	$1.6\cdot 10^{-7}$	0
$\mathtt{cHudIm}$	$2.07 \cdot 10^{-26}$	$2.07 \cdot 10^{-26}$	$-1.352 \cdot 10^{-6}$	$1.245 \cdot 10^{-35}$	$1.245 \cdot 10^{-35}$	$-2.651 \cdot 10^{-6}$
cHudRe	$-4.287 \cdot 10^{-24}$	$-4.287 \cdot 10^{-24}$	$-1.329 \cdot 10^{-6}$	$2.101 \cdot 10^{-35}$	$2.101 \cdot 10^{-35}$	$-2.666 \cdot 10^{-6}$
cM	$-1.238 \cdot 10^{-5}$	$-1.238 \cdot 10^{-5}$	0	$1.912 \cdot 10^{-5}$	$1.912 \cdot 10^{-5}$	0
cWtil	$9.253 \cdot 10^{-7}$	$9.253 \cdot 10^{-7}$	0	$3.016 \cdot 10^{-6}$	$3.016 \cdot 10^{-6}$	0
cdBIm	$-1.155 \cdot 10^{-15}$	$-1.155 \cdot 10^{-15}$	$-6.059 \cdot 10^{-7}$	$6.353 \cdot 10^{-17}$	$6.353 \cdot 10^{-17}$	$-1.181 \cdot 10^{-6}$
cdBRe	$2.722 \cdot 10^{-16}$	$2.722 \cdot 10^{-16}$	$-5.877 \cdot 10^{-7}$	$6.199 \cdot 10^{-18}$	$6.199 \cdot 10^{-18}$	$-1.161 \cdot 10^{-6}$
$\mathtt{cdHIm}$	$-6.382 \cdot 10^{-17}$	$-6.382 \cdot 10^{-17}$	$-5.797 \cdot 10^{-7}$	$9.453 \cdot 10^{-17}$	$9.453 \cdot 10^{-17}$	$-1.174 \cdot 10^{-6}$
cdHRe	$1.647 \cdot 10^{-16}$	$1.647 \cdot 10^{-16}$	$-5.466 \cdot 10^{-7}$	$3.127 \cdot 10^{-17}$	$3.127 \cdot 10^{-17}$	$-1.151 \cdot 10^{-6}$
$\mathtt{cdWIm}$	$-2.98 \cdot 10^{-15}$	$-2.98 \cdot 10^{-15}$	$-6.041 \cdot 10^{-7}$	$7.866 \cdot 10^{-15}$	$7.866 \cdot 10^{-15}$	$-1.17 \cdot 10^{-6}$
cdWRe	$-2.65 \cdot 10^{-14}$	$-2.65 \cdot 10^{-14}$	$-6.037 \cdot 10^{-7}$	$1.358 \cdot 10^{-15}$	$1.358 \cdot 10^{-15}$	$-1.178 \cdot 10^{-6}$
cll1	$8.797 \cdot 10^{-7}$	$8.797 \cdot 10^{-7}$	0	$4 \cdot 10^{-8}$	$4 \cdot 10^{-8}$	0
cuHIm	$3.57 \cdot 10^{-17}$	$3.57 \cdot 10^{-17}$	$-7.283 \cdot 10^{-7}$	$4.516 \cdot 10^{-28}$	$4.516 \cdot 10^{-28}$	$-1.461 \cdot 10^{-6}$
cuHRe	$6.167 \cdot 10^{-17}$	$6.167 \cdot 10^{-17}$	$-7.297 \cdot 10^{-7}$	$1.971 \cdot 10^{-27}$	$1.971 \cdot 10^{-27}$	$-1.471 \cdot 10^{-6}$
cuWIm	$-9.313 \cdot 10^{-17}$	$-9.313 \cdot 10^{-17}$	$-7.194 \cdot 10^{-7}$	$1.44 \cdot 10^{-25}$	$1.44 \cdot 10^{-25}$	$-1.458 \cdot 10^{-6}$
cuWRe	$-6.802 \cdot 10^{-17}$	$-6.802 \cdot 10^{-17}$	$-7.204 \cdot 10^{-7}$	$2.74 \cdot 10^{-24}$	$2.74 \cdot 10^{-24}$	$-1.46 \cdot 10^{-6}$
sm	0	0	0	$5.861 \cdot 10^{-7}$	$5.861 \cdot 10^{-7}$	0

## 1.41 $W^+W^- \rightarrow Ht\bar{t}$

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
сН	$3.841 \cdot 10^{-7}$	$3.841 \cdot 10^{-7}$	0	$4.798 \cdot 10^{-8}$	$4.798 \cdot 10^{-8}$	0		
сНВ	$-1.235 \cdot 10^{-8}$	$-1.235 \cdot 10^{-8}$	0	$9.634 \cdot 10^{-10}$	$9.634 \cdot 10^{-10}$	0		

cHBtil	$1.12 \cdot 10^{-8}$	$1.12\cdot 10^{-8}$	0	$5.236 \cdot 10^{-11}$	$5.236 \cdot 10^{-11}$	0
cHDD	$-6.686 \cdot 10^{-6}$	$-6.686 \cdot 10^{-6}$	0	$5.644 \cdot 10^{-7}$	$5.644 \cdot 10^{-7}$	0
cHQ1	$-1.82 \cdot 10^{-6}$	$-1.82 \cdot 10^{-6}$	0	$5.098 \cdot 10^{-6}$	$5.098 \cdot 10^{-6}$	0
cHQ3	$1.314 \cdot 10^{-5}$	$1.314 \cdot 10^{-5}$	0	$1.905 \cdot 10^{-5}$	$1.905 \cdot 10^{-5}$	0
cHW	$2.715 \cdot 10^{-6}$	$2.715 \cdot 10^{-6}$	0	$1.197 \cdot 10^{-5}$	$1.197 \cdot 10^{-5}$	0
cHWB	$-3.495 \cdot 10^{-7}$	$-3.495 \cdot 10^{-7}$	0	$2.415 \cdot 10^{-7}$	$2.415 \cdot 10^{-7}$	0
cHWBtil	$-2.161 \cdot 10^{-8}$	$-2.161 \cdot 10^{-8}$	0	$1.729 \cdot 10^{-7}$	$1.729 \cdot 10^{-7}$	0
cHWtil	$1.214 \cdot 10^{-6}$	$1.214 \cdot 10^{-6}$	0	$1.599 \cdot 10^{-5}$	$1.599 \cdot 10^{-5}$	0
cHl3	$-3.514 \cdot 10^{-5}$	$-3.514 \cdot 10^{-5}$	0	$3.196 \cdot 10^{-6}$	$3.196 \cdot 10^{-6}$	0
cHt	$3.873 \cdot 10^{-6}$	$3.873 \cdot 10^{-6}$	0	$9.561 \cdot 10^{-7}$	$9.561 \cdot 10^{-7}$	0
$\mathtt{cHtbIm}$	$6.247 \cdot 10^{-9}$	$6.247 \cdot 10^{-9}$	0	$1.597 \cdot 10^{-9}$	$1.597 \cdot 10^{-9}$	0
cHtbRe	$8.745 \cdot 10^{-8}$	$8.745 \cdot 10^{-8}$	0	$1.596 \cdot 10^{-9}$	$1.596 \cdot 10^{-9}$	0
cW	$-1.007 \cdot 10^{-6}$	$-1.007 \cdot 10^{-6}$	0	$5.384 \cdot 10^{-6}$	$5.384 \cdot 10^{-6}$	0
cWtil	$-3.24 \cdot 10^{-7}$	$-3.24 \cdot 10^{-7}$	0	$9.072 \cdot 10^{-6}$	$9.072 \cdot 10^{-6}$	0
$\mathtt{cbHIm}$	$1.131 \cdot 10^{-8}$	$1.131 \cdot 10^{-8}$	0	$3.28 \cdot 10^{-11}$	$3.28 \cdot 10^{-11}$	0
cbHRe	$3.118 \cdot 10^{-8}$	$3.118 \cdot 10^{-8}$	0	$3.097 \cdot 10^{-11}$	$3.097 \cdot 10^{-11}$	0
$\mathtt{cbWIm}$	$3.889 \cdot 10^{-9}$	$3.889 \cdot 10^{-9}$	0	$1.732 \cdot 10^{-8}$	$1.732 \cdot 10^{-8}$	0
cbWRe	$-9.71 \cdot 10^{-8}$	$-9.71 \cdot 10^{-8}$	0	$2.012 \cdot 10^{-8}$	$2.012 \cdot 10^{-8}$	0
cll1	$1.757 \cdot 10^{-5}$	$1.757 \cdot 10^{-5}$	0	$7.989 \cdot 10^{-7}$	$7.989 \cdot 10^{-7}$	0
$\mathtt{ctBIm}$	$-8.566 \cdot 10^{-8}$	$-8.566 \cdot 10^{-8}$	0	$4.192 \cdot 10^{-8}$	$4.192 \cdot 10^{-8}$	0
ctBRe	$-5.873 \cdot 10^{-8}$	$-5.873 \cdot 10^{-8}$	0	$3.103 \cdot 10^{-8}$	$3.103 \cdot 10^{-8}$	0
$\mathtt{ctHIm}$	$9.042 \cdot 10^{-7}$	$9.042 \cdot 10^{-7}$	0	$7.195 \cdot 10^{-7}$	$7.195 \cdot 10^{-7}$	0
$\mathtt{ctHRe}$	$-2.67 \cdot 10^{-6}$	$-2.67 \cdot 10^{-6}$	0	$1.143 \cdot 10^{-6}$	$1.143 \cdot 10^{-6}$	0
$\mathtt{ctWIm}$	$-8.982 \cdot 10^{-6}$	$-8.982 \cdot 10^{-6}$	0	$2.516 \cdot 10^{-5}$	$2.516 \cdot 10^{-5}$	0
ctWRe	$-4.991 \cdot 10^{-8}$	$-4.991 \cdot 10^{-8}$	0	$2.388 \cdot 10^{-5}$	$2.388 \cdot 10^{-5}$	0
sm	0	0	0	$1.066 \cdot 10^{-5}$	$1.066 \cdot 10^{-5}$	0

#### 1.42 $W^+W^- \to W^+W^-$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	0.3367	0.3367	0	0.005742	0.005742	0
cHW	0.2158	0.2158	0	1.883	1.883	0
cHWB	0.0736	0.0736	0	0.0317	0.0317	0
cHWBtil	$-1.055 \cdot 10^{-16}$	$-1.055 \cdot 10^{-16}$	0	0.01286	0.01286	0
cHWtil	$6.076 \cdot 10^{-15}$	$6.076 \cdot 10^{-15}$	0	1.963	1.963	0
cH13	-2.463	-2.463	0	0.1493	0.1493	0
cM	-0.01947	-0.01947	0	17.97	17.97	0
cWtil	$9.654 \cdot 10^{-13}$	$1.219 \cdot 10^{-12}$	-0.2629	3.828	3.828	0
cll1	1.231	1.231	0	0.03732	0.03732	0
sm	0	0	0	170.7	170.7	0

## 1.43 $W^+W^- \rightarrow \gamma \gamma$

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сНВ	-0.04155	-0.04155	0	0.2771	0.2771	0
cHBtil	$-1.805 \cdot 10^{-16}$	$-1.805 \cdot 10^{-16}$	0	0.2771	0.2771	0
cHDD	-0.01759	-0.01759	0	0.0009294	0.0009294	0
cHW	-0.01245	-0.01245	0	0.02279	0.02279	0
cHWB	-0.1188	-0.1188	0	0.09875	0.09875	0
cHWBtil	$-1.414 \cdot 10^{-16}$	$-1.414 \cdot 10^{-16}$	0	0.118	0.118	0
cHWtil	$2.827 \cdot 10^{-18}$	$2.827 \cdot 10^{-18}$	0	0.02279	0.02279	0
cH13	-0.06465	-0.06465	0	0.003919	0.003919	0
cW	0.001184	0.001184	0	0.6534	0.6534	0
cWtil	$-4.526 \cdot 10^{-17}$	$-4.191 \cdot 10^{-17}$	0.07401	0.6529	0.6529	0
cll1	0.03232	0.03232	0	0.0009798	0.0009798	0
sm	0	0	0	0.09957	0.09957	0

## 1.44 $W^+W^- \rightarrow \gamma\gamma\gamma$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHB	$-2.217 \cdot 10^{-8}$	$-2.217 \cdot 10^{-8}$	0	$7.858 \cdot 10^{-7}$	$7.858 \cdot 10^{-7}$	0	
cHBtil	$-9.549 \cdot 10^{-8}$	$-9.549 \cdot 10^{-8}$	0	$2.219 \cdot 10^{-6}$	$2.219 \cdot 10^{-6}$	0	
cHDD	$-7.523 \cdot 10^{-8}$	$-7.523 \cdot 10^{-8}$	0	$5.964 \cdot 10^{-9}$	$5.964 \cdot 10^{-9}$	0	
cHW	$-2.978 \cdot 10^{-9}$	$-2.978 \cdot 10^{-9}$	0	$2.066 \cdot 10^{-8}$	$2.066 \cdot 10^{-8}$	0	
cHWB	$-8.375 \cdot 10^{-7}$	$-8.375 \cdot 10^{-7}$	0	$3.144 \cdot 10^{-7}$	$3.144 \cdot 10^{-7}$	0	
cHWBtil	$-5.151 \cdot 10^{-7}$	$-5.151 \cdot 10^{-7}$	0	$1.447 \cdot 10^{-6}$	$1.447 \cdot 10^{-6}$	0	
cHWtil	$-9.449 \cdot 10^{-10}$	$-9.449 \cdot 10^{-10}$	0	$3.93 \cdot 10^{-9}$	$3.93 \cdot 10^{-9}$	0	
cH13	$-4.032 \cdot 10^{-5}$	$-4.032 \cdot 10^{-5}$	0	$3.666 \cdot 10^{-6}$	$3.666 \cdot 10^{-6}$	0	
cW	$-9.266 \cdot 10^{-7}$	$-9.266 \cdot 10^{-7}$	0	$1.894 \cdot 10^{-6}$	$1.894 \cdot 10^{-6}$	0	
cWtil	$4.017 \cdot 10^{-7}$	$4.017 \cdot 10^{-7}$	0	$1.767 \cdot 10^{-5}$	$1.767 \cdot 10^{-5}$	0	
cll1	$2.016 \cdot 10^{-5}$	$2.016 \cdot 10^{-5}$	0	$9.166 \cdot 10^{-7}$	$9.166 \cdot 10^{-7}$	0	
sm	0	0	0	$1.442 \cdot 10^{-6}$	$1.442 \cdot 10^{-6}$	0	

## **1.45** $\bar{b}t \rightarrow \bar{d}u$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	1 - mod2		
cHQ3	0.003393	0.003393	0	0.0001029 $0.0$	001029 0		
cHj3	0.003235	0.003235	0	$9.807 \cdot 10^{-5}$ $9.80$	$07 \cdot 10^{-5}$ 0		
cH13	-0.0001246	-0.0001246	0	$7.553 \cdot 10^{-6}$ $7.55$	$63 \cdot 10^{-6}$ 0		
$\mathtt{cHtbIm}$	$9.087 \cdot 10^{-22}$	$9.087 \cdot 10^{-22}$	0	$1.259 \cdot 10^{-5}$ $1.25$	$69 \cdot 10^{-5}$ 0		
cHtbRe	$-2.016 \cdot 10^{-6}$	$-2.016 \cdot 10^{-6}$	0	$4.12 \cdot 10^{-5}$ 4.1	$2 \cdot 10^{-5}$ 0		
$\mathtt{cHudIm}$	$1.466 \cdot 10^{-37}$	$1.888 \cdot 10^{-37}$	-0.2874	$3.301 \cdot 10^{-25}$ $3.30$	$2 \cdot 10^{-25}  -2.665 \cdot 10^{-6}$		
cHudRe	$3.298 \cdot 10^{-21}$	$3.298 \cdot 10^{-21}$	$-1.334 \cdot 10^{-6}$	$3.915 \cdot 10^{-24}$ $3.91$	$5 \cdot 10^{-24}$ $-2.656 \cdot 10^{-6}$		
cQj31	0.5217	0.5217	0	2.431	2.431 0		

cQj38	$3.316 \cdot 10^{-9}$	$8.366 \cdot 10^{-18}$	1	0.5152	0.5152	0
cQtjd1Im	$6.041 \cdot 10^{-14}$	$6.041 \cdot 10^{-14}$	$-5.794 \cdot 10^{-7}$	$1.799 \cdot 10^{-10}$	$1.799 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$
cQtjd1Re	$-3.571 \cdot 10^{-10}$	$-3.571 \cdot 10^{-10}$	$-5.88 \cdot 10^{-7}$	$1.799 \cdot 10^{-10}$	$1.799 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$
cQtjd8Im	$1.287 \cdot 10^{-32}$	$3.59 \cdot 10^{-28}$	$-2.789 \cdot 10^4$	$3.997 \cdot 10^{-11}$	$3.997 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$
cQtjd8Re	$-5.744 \cdot 10^{-27}$	$-8.765 \cdot 10^{-32}$	1	$3.997 \cdot 10^{-11}$	$3.997 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$
cQujb1Im	$-2.997 \cdot 10^{-17}$	$-2.997 \cdot 10^{-17}$	$-7.342 \cdot 10^{-7}$	$2.712 \cdot 10^{-12}$	$2.712 \cdot 10^{-12}$	$-1.438 \cdot 10^{-6}$
cQujb1Re	$-4.674 \cdot 10^{-13}$	$-4.674 \cdot 10^{-13}$	$-7.275 \cdot 10^{-7}$	$2.144 \cdot 10^{-11}$	$2.144 \cdot 10^{-11}$	$-1.446 \cdot 10^{-6}$
cQujb8Im	$-1.271 \cdot 10^{-16}$	$-1.271 \cdot 10^{-16}$	$-7.869 \cdot 10^{-7}$	$7.057 \cdot 10^{-12}$	$7.057 \cdot 10^{-12}$	$-1.445 \cdot 10^{-6}$
cQujb8Re	$-7.533 \cdot 10^{-13}$	$-7.533 \cdot 10^{-13}$	$-7.301 \cdot 10^{-7}$	$7.057 \cdot 10^{-12}$	$7.057 \cdot 10^{-12}$	$-1.445 \cdot 10^{-6}$
cbWIm	$2.627 \cdot 10^{-19}$	$2.627 \cdot 10^{-19}$	0	0.007702	0.007702	0
cbWRe	-0.0003764	-0.0003764	0	0.004115	0.004115	0
$\mathtt{cdWIm}$	$5.172 \cdot 10^{-26}$	$5.145 \cdot 10^{-26}$	0.005206	$6.993 \cdot 10^{-12}$	$6.993 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$
cdWRe	$-6.859 \cdot 10^{-12}$	$-6.859 \cdot 10^{-12}$	$-5.978 \cdot 10^{-7}$	$9.365 \cdot 10^{-12}$	$9.365 \cdot 10^{-12}$	$-1.175 \cdot 10^{-6}$
cjQbd1Im	$-9.953 \cdot 10^{-16}$	$-9.953 \cdot 10^{-16}$	$-5.928 \cdot 10^{-7}$	$7.195 \cdot 10^{-10}$	$7.195 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$
cjQbd1Re	$5.948 \cdot 10^{-12}$	$5.948 \cdot 10^{-12}$	$-5.717 \cdot 10^{-7}$	$7.195 \cdot 10^{-10}$	$7.195 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$
cjQbd8Im	$-1.341 \cdot 10^{-15}$	$-1.341 \cdot 10^{-15}$	$-5.968 \cdot 10^{-7}$	$1.599 \cdot 10^{-10}$	$1.599 \cdot 10^{-10}$	$-1.188 \cdot 10^{-6}$
cjQbd8Re	$7.947 \cdot 10^{-12}$	$7.947 \cdot 10^{-12}$	$-5.789 \cdot 10^{-7}$	$1.599 \cdot 10^{-10}$	$1.599 \cdot 10^{-10}$	$-1.188 \cdot 10^{-6}$
cjQtu1Im	$8.619 \cdot 10^{-15}$	$8.619 \cdot 10^{-15}$	$-7.193 \cdot 10^{-7}$	$1.539 \cdot 10^{-10}$	$1.539 \cdot 10^{-10}$	$-1.494 \cdot 10^{-6}$
cjQtu1Re	$5.119 \cdot 10^{-11}$	$5.119 \cdot 10^{-11}$	$-7.229 \cdot 10^{-7}$	$1.539 \cdot 10^{-10}$	$1.539 \cdot 10^{-10}$	$-1.429 \cdot 10^{-6}$
cjQtu8Im	$1.151 \cdot 10^{-14}$	$1.151 \cdot 10^{-14}$	$-6.949 \cdot 10^{-7}$	$3.42 \cdot 10^{-11}$	$3.42 \cdot 10^{-11}$	$-1.462 \cdot 10^{-6}$
cjQtu8Re	$6.745 \cdot 10^{-11}$	$6.745 \cdot 10^{-11}$	$-7.264 \cdot 10^{-7}$	$3.42 \cdot 10^{-11}$	$3.42 \cdot 10^{-11}$	$-1.462 \cdot 10^{-6}$
cjtQd1Im	$1.847 \cdot 10^{-14}$	$1.847 \cdot 10^{-14}$	$-5.957 \cdot 10^{-7}$	$1.503 \cdot 10^{-10}$	$1.503 \cdot 10^{-10}$	$-1.131 \cdot 10^{-6}$
cjtQd1Re	$-2.8 \cdot 10^{-11}$	$-2.8 \cdot 10^{-11}$	$-5.715 \cdot 10^{-7}$	$9.935 \cdot 10^{-12}$	$9.935 \cdot 10^{-12}$	$-1.168 \cdot 10^{-6}$
cjtQd8Im	$1.467 \cdot 10^{-14}$	$1.467 \cdot 10^{-14}$	$-6.134 \cdot 10^{-7}$	$1.19 \cdot 10^{-11}$	$1.19 \cdot 10^{-11}$	$-1.177 \cdot 10^{-6}$
cjtQd8Re	$-1.191 \cdot 10^{-10}$	$-1.191 \cdot 10^{-10}$	$-5.877 \cdot 10^{-7}$	$2.227 \cdot 10^{-11}$	$2.227 \cdot 10^{-11}$	$-1.167 \cdot 10^{-6}$
cjuQb1Im	$-3.2 \cdot 10^{-16}$	$-3.2 \cdot 10^{-16}$	$-7.187 \cdot 10^{-7}$	$3.848 \cdot 10^{-11}$	$3.848 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$
cjuQb1Re	$-1.892 \cdot 10^{-12}$	$-1.892 \cdot 10^{-12}$	$-7.399 \cdot 10^{-7}$	$3.848 \cdot 10^{-11}$	$3.848 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$
cjuQb8Im	$-2.725 \cdot 10^{-30}$	$3.373 \cdot 10^{-30}$	2.238	$8.551 \cdot 10^{-12}$	$8.551 \cdot 10^{-12}$	$-1.45 \cdot 10^{-6}$
cjuQb8Re	$-4.961 \cdot 10^{-29}$	$-4.961 \cdot 10^{-29}$	0	$8.551 \cdot 10^{-12}$	$8.551 \cdot 10^{-12}$	$-1.45 \cdot 10^{-6}$

cll1	$6.229 \cdot 10^{-5}$	$6.229 \cdot 10^{-5}$	0	$1.888 \cdot 10^{-6}$	$1.888 \cdot 10^{-6}$	0
ctWIm	$-4.689 \cdot 10^{-18}$	$-4.689 \cdot 10^{-18}$	0	0.004178	0.004178	0
ctWRe	-0.001489	-0.001489	0	0.004206	0.004206	0
cuWIm	$-3.011 \cdot 10^{-26}$	$-3.012 \cdot 10^{-26}$	$-2.603 \cdot 10^{-5}$	$7.195 \cdot 10^{-13}$	$7.195 \cdot 10^{-13}$	$-1.459 \cdot 10^{-6}$
cuWRe	$-3.569 \cdot 10^{-12}$	$-3.569 \cdot 10^{-12}$	$-7.286 \cdot 10^{-7}$	$1.496 \cdot 10^{-12}$	$1.496 \cdot 10^{-12}$	$-1.404 \cdot 10^{-6}$
cutbd1Im	$8.818 \cdot 10^{-27}$	$8.818 \cdot 10^{-27}$	$-1.338 \cdot 10^{-6}$	$1.118 \cdot 10^{-21}$	$1.118 \cdot 10^{-21}$	$-2.684 \cdot 10^{-6}$
cutbd1Re	$-5.227 \cdot 10^{-23}$	$-5.227 \cdot 10^{-23}$	$-1.32 \cdot 10^{-6}$	$1.011 \cdot 10^{-19}$	$1.011 \cdot 10^{-19}$	$-2.67 \cdot 10^{-6}$
cutbd8Im	$1.176 \cdot 10^{-26}$	$1.176 \cdot 10^{-26}$	$-1.361 \cdot 10^{-6}$	$1.496 \cdot 10^{-20}$	$1.496 \cdot 10^{-20}$	$-2.674 \cdot 10^{-6}$
cutbd8Re	$-6.97 \cdot 10^{-23}$	$-6.97 \cdot 10^{-23}$	$-1.334 \cdot 10^{-6}$	$2.247 \cdot 10^{-20}$	$2.247 \cdot 10^{-20}$	$-2.625 \cdot 10^{-6}$
sm	0	0	0	$2.624 \cdot 10^{-5}$	$2.624 \cdot 10^{-5}$	0

### $\textbf{1.46} \quad \gamma W^+ \to z W^+$

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$
cHB	-0.06276	-0.06276	0	0.1171	0.1171	0
cHBtil	$-1.779 \cdot 10^{-17}$	$-1.779 \cdot 10^{-17}$	0	0.004132  0	.004132	0
cHDD	-0.03348	-0.03348	0	0.000631  0	.000631	0
cHW	0.06824	0.06824	0	0.1633	0.1633	0
cHWB	0.09425	0.09425	0	0.817	0.817	0
cHWBtil	$5.288 \cdot 10^{-16}$	$5.288 \cdot 10^{-16}$	0	0.5728	0.5728	0
cHWtil	$3.996 \cdot 10^{-16}$	$3.996 \cdot 10^{-16}$	0	0.06202	0.06202	0
cH13	-0.1526	-0.1526	0	0.009251  0	.009251	0
cM	-0.04206	-0.04206	0	4.95	4.95	0
cWtil	$-7.414 \cdot 10^{-15}$	$-7.66 \cdot 10^{-15}$	-0.03308	3.125	3.125	0
cll1	0.0763	0.0763	0	0.002313  0	.002313	0
sm	0	0	0	0.3298	0.3298	0

## 1.47 $\mu^+\mu^- \rightarrow \tau^+\tau^-$

		interfere		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHDD	-0.001495	-0.001495	0	$9.941 \cdot 10^{-5}$	$9.941 \cdot 10^{-5}$	0	
cHWB	-0.00374	-0.00374	0	0.0006105	0.0006105	0	
сНе	$-4.93 \cdot 10^{-5}$	$-4.93 \cdot 10^{-5}$	0	$2.441 \cdot 10^{-5}$	$2.441 \cdot 10^{-5}$	0	
cHl1	0.0008007	0.0008007	0	$3.613 \cdot 10^{-5}$	$3.613 \cdot 10^{-5}$	0	
cH13	-0.001847	-0.001847	0	0.0001362	0.0001362	0	
ceBIm	$-1.475 \cdot 10^{-24}$	$-8.466 \cdot 10^{-24}$	-4.74	$5.724 \cdot 10^{-7}$	$5.724 \cdot 10^{-7}$	$6.08 \cdot 10^{-6}$	
ceBRe	$9.683 \cdot 10^{-7}$	$9.682 \cdot 10^{-7}$	$3.036 \cdot 10^{-6}$	$5.724 \cdot 10^{-7}$	$5.724 \cdot 10^{-7}$	$6.062 \cdot 10^{-6}$	
$\mathtt{ceHIm}$	$3.888 \cdot 10^{-29}$	$9.077 \cdot 10^{-30}$	0.7665	$7.277 \cdot 10^{-14}$	$7.277 \cdot 10^{-14}$	$2.762 \cdot 10^{-6}$	
ceHRe	$-2.368 \cdot 10^{-12}$	$-2.368 \cdot 10^{-12}$	$1.393 \cdot 10^{-6}$	$1.455 \cdot 10^{-13}$	$1.455 \cdot 10^{-13}$	$2.749 \cdot 10^{-6}$	
$\mathtt{ceWIm}$	$-4.944 \cdot 10^{-24}$	$4.15 \cdot 10^{-24}$	1.84	$4.025 \cdot 10^{-7}$	$4.025 \cdot 10^{-7}$	$6.087 \cdot 10^{-6}$	
ceWRe	$-7.946 \cdot 10^{-7}$	$-7.946 \cdot 10^{-7}$	$3.045 \cdot 10^{-6}$	$6.769 \cdot 10^{-7}$	$6.769 \cdot 10^{-7}$	$6.087 \cdot 10^{-6}$	
cee	0.1024	0.1024	0	0.8359	0.8359	0	
cle	0.09794	0.09794	0	0.8048	0.8048	0	
cll	0.02335	0.02335	0	0.1698	0.1698	0	
cll1	0.07446	0.07446	0	0.5393	0.5393	0	
sm	0	0	0	0.006547	0.006547	0	

### 1.48 $\nu_{\tau}\bar{\nu}_{\tau} \rightarrow \nu_{\tau}\bar{\nu}_{\tau}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	-0.0005052	-0.0005052	0	$7.657 \cdot 10^{-6}$	$7.657 \cdot 10^{-6}$	0
cHl1	-0.0002081	-0.0002081	0	$1.262 \cdot 10^{-5}$	$1.262 \cdot 10^{-5}$	0
cH13	$-1.206 \cdot 10^{-22}$	$-1.206 \cdot 10^{-22}$	0	$2.25 \cdot 10^{-37}$	$2.25 \cdot 10^{-37}$	0
cll	-0.4055	-0.4055	0	4.932	4.932	0

cll1	$-4.457 \cdot 10^{-5}$	$-4.457 \cdot 10^{-5}$	0	0.02618	0.02618	0
$\mathtt{sm}$	0	0	0	0.002952	0.002952	0

## 1.49 $\nu_e \bar{\nu}_e ightarrow u_\mu \bar{\nu}_\mu$

		interfe	erence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	-0.0002737	-0.0002737	0	$4.148 \cdot 10^{-6}$	$4.148 \cdot 10^{-6}$	0		
cHl1	-0.0007126	-0.0007126	0	$4.32 \cdot 10^{-5}$	$4.32 \cdot 10^{-5}$	0		
cH13	$8.491 \cdot 10^{-20}$	$8.491 \cdot 10^{-20}$	0	$7.993 \cdot 10^{-37}$	$7.993 \cdot 10^{-37}$	0		
cll	0.1306	0.1306	0	0.9439	0.9439	0		
cll1	0.1236	0.1236	0	0.8976	0.8976	0		
sm	0	0	0	0.002306	0.002306	0		

# 1.50 $b\bar{b} \rightarrow \gamma \gamma$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  & \verb mod2  & 1-\verb mod2/mod1 $		
сНВ	$-9.98 \cdot 10^{-7}$	$-9.98 \cdot 10^{-7}$	0	$7.26 \cdot 10^{-6}$ $7.26 \cdot 10^{-6}$ 0		
cHBtil	$1.724 \cdot 10^{-23}$	$1.724 \cdot 10^{-23}$	0	$7.26 \cdot 10^{-6}$ $7.26 \cdot 10^{-6}$ 0		
cHDD	$-1.784 \cdot 10^{-5}$	$-1.784 \cdot 10^{-5}$	0	$9.431 \cdot 10^{-7}  9.431 \cdot 10^{-7} \qquad 0$		
cHW	$-1.744 \cdot 10^{-7}$	$-1.744 \cdot 10^{-7}$	0	$5.97 \cdot 10^{-7}$ $5.97 \cdot 10^{-7}$ 0		
cHWB	$-3.438 \cdot 10^{-5}$	$-3.438 \cdot 10^{-5}$	0	$5.95 \cdot 10^{-6}$ $5.95 \cdot 10^{-6}$ 0		
cHWBtil	$4.596 \cdot 10^{-24}$	$4.596 \cdot 10^{-24}$	0	$2.082 \cdot 10^{-6}$ $2.082 \cdot 10^{-6}$ 0		
cHWtil	$-2.441 \cdot 10^{-25}$	$-2.441 \cdot 10^{-25}$	0	$5.97 \cdot 10^{-7}$ $5.97 \cdot 10^{-7}$ 0		
cH13	$-2.349 \cdot 10^{-5}$	$-2.349 \cdot 10^{-5}$	0	$1.424 \cdot 10^{-6}$ $1.424 \cdot 10^{-6}$ 0		
cbBIm	$1.561 \cdot 10^{-22}$	$1.561 \cdot 10^{-22}$	$1.845 \cdot 10^{-5}$	$0.00199 \qquad 0.00199 \qquad 0$		
cbBRe	$7.426 \cdot 10^{-6}$	$7.426 \cdot 10^{-6}$	0	$0.00199 \qquad 0.00199 \qquad 0$		
cbWIm	$7.213 \cdot 10^{-23}$	$7.213 \cdot 10^{-23}$	0	$0.0005705 \qquad 0.0005705 \qquad 0$		

cbWRe	$-5.02 \cdot 10^{-6}$	$-5.02 \cdot 10^{-6}$	0	0.0005706	0.0005706	0
cll1	$1.175 \cdot 10^{-5}$	$1.175 \cdot 10^{-5}$	0	$3.56 \cdot 10^{-7}$	$3.56 \cdot 10^{-7}$	0
sm	0	0	0	0.0001149	0.0001149	0

# $1.51 \quad b\bar{b} \to \mu^+\mu^-$

		ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	$-3.667 \cdot 10^{-5}$	$-3.667 \cdot 10^{-5}$	0	$6.087 \cdot 10^{-6}$	$6.087 \cdot 10^{-6}$	0	
cHQ1	0.0002343	0.0002343	0	$5.665 \cdot 10^{-6}$	$5.665 \cdot 10^{-6}$	0	
cHQ3	0.0001176	0.0001176	0	$3.355 \cdot 10^{-6}$	$3.355 \cdot 10^{-6}$	0	
cHWB	-0.0001001	-0.0001001	0	$1.316 \cdot 10^{-5}$	$1.316 \cdot 10^{-5}$	0	
cHbq	$-3.081 \cdot 10^{-5}$	$-3.081 \cdot 10^{-5}$	0	$2.831 \cdot 10^{-6}$	$2.831 \cdot 10^{-6}$	0	
сНе	$-4.165 \cdot 10^{-5}$	$-4.165 \cdot 10^{-5}$	0	$6.322 \cdot 10^{-6}$	$6.322 \cdot 10^{-6}$	0	
cHl1	0.0004007	0.0004007	0	$1.476 \cdot 10^{-5}$	$1.476 \cdot 10^{-5}$	0	
cH13	-0.000338	-0.000338	0	$1.197 \cdot 10^{-5}$	$1.197\cdot10^{-5}$	0	
cQe	-0.001464	-0.001464	0	0.03518	0.03518	0	
cQl1	0.02521	0.02521	0	0.13	0.13	0	
cQ13	0.001628	0.001628	0	0.008396	0.008396	0	
cbBIm	$-1.551 \cdot 10^{-20}$	$-1.551 \cdot 10^{-20}$	0	0.00309	0.00309	0	
cbBRe	$1.941 \cdot 10^{-5}$	$1.941 \cdot 10^{-5}$	0	0.002953	0.002953	0	
$\mathtt{cbHIm}$	$4.488 \cdot 10^{-28}$	$4.488 \cdot 10^{-28}$	0	$1.164 \cdot 10^{-10}$	$1.164 \cdot 10^{-10}$	0	
cbHRe	$-9.286 \cdot 10^{-11}$	$-9.286 \cdot 10^{-11}$	0	$1.164 \cdot 10^{-10}$	$1.164 \cdot 10^{-10}$	0	
$\mathtt{cbWIm}$	$-4.315 \cdot 10^{-20}$	$-4.315 \cdot 10^{-20}$	0	0.002039	0.002039	0	
cbWRe	$-2.068 \cdot 10^{-5}$	$-2.068 \cdot 10^{-5}$	0	0.001161	0.001161	0	
cbe	0.02365	0.02365	0	0.2896	0.2896	0	
cbl	$6.365 \cdot 10^{-5}$	$6.365 \cdot 10^{-5}$	0	0.001541	0.001541	0	
ceBIm	$-1.418 \cdot 10^{-27}$	$1.652 \cdot 10^{-27}$	2.165	$1.224 \cdot 10^{-10}$	$1.224 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$	
ceBRe	$2.461 \cdot 10^{-11}$	$2.461 \cdot 10^{-11}$	$-2.845 \cdot 10^{-7}$	$1.224 \cdot 10^{-10}$	$1.224 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$	

#### 1.52 $b\bar{b} \rightarrow \nu_e \bar{\nu}_e$

		interfer	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	$-3.43 \cdot 10^{-5}$	$-3.43 \cdot 10^{-5}$	0	$8.998 \cdot 10^{-7}$	$8.998 \cdot 10^{-7}$	0		
cHQ1	0.0001071	0.0001071	0	$3.814 \cdot 10^{-6}$	$3.814 \cdot 10^{-6}$	0		
cHQ3	$3.11\cdot 10^{-5}$	$3.11\cdot 10^{-5}$	0	$1.107 \cdot 10^{-6}$	$1.107 \cdot 10^{-6}$	0		
cHWB	$-1.089 \cdot 10^{-5}$	$-1.089 \cdot 10^{-5}$	0	$1.19 \cdot 10^{-6}$	$1.19 \cdot 10^{-6}$	0		
cHbq	$-2.415 \cdot 10^{-5}$	$-2.415 \cdot 10^{-5}$	0	$4.929 \cdot 10^{-6}$	$4.929 \cdot 10^{-6}$	0		
cHl1	-0.0003766	-0.0003766	0	$1.141 \cdot 10^{-5}$	$1.141 \cdot 10^{-5}$	0		
cHl3	$-9.73 \cdot 10^{-5}$	$-9.73 \cdot 10^{-5}$	0	$2.949 \cdot 10^{-6}$	$2.949 \cdot 10^{-6}$	0		
cQl1	-0.02301	-0.02301	0	0.09771	0.09771	0		
cQ13	0.0416	0.0416	0	0.1766	0.1766	0		
$\mathtt{cbBIm}$	$2.089 \cdot 10^{-21}$	$2.089 \cdot 10^{-21}$	0	0.0005254	0.0005254	0		
cbBRe	$5.495 \cdot 10^{-6}$	$5.495 \cdot 10^{-6}$	0	$7.895 \cdot 10^{-5}$	$7.895 \cdot 10^{-5}$	0		
cbWIm	$1.073 \cdot 10^{-19}$	$1.073 \cdot 10^{-19}$	0	0.002175	0.002175	0		
cbWRe	$-5.12 \cdot 10^{-5}$	$-5.12 \cdot 10^{-5}$	0	0.001735	0.001735	0		
cbl	0.0004472	0.0004472	0	0.01091	0.01091	0		
cll1	$9.73 \cdot 10^{-5}$	$9.73 \cdot 10^{-5}$	0	$2.949 \cdot 10^{-6}$	$2.949 \cdot 10^{-6}$	0		
sm	0	0	0	0.002865	0.002865	0		

#### 1.53 $b\bar{b} \rightarrow b\bar{b}$

		interfere	nce		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	0.04149	0.04149	0	0.0005445	0.0005445	0		
cHQ1	8.386	8.386	0	0.7	0.7	0		
cHQ3	-0.003889	-0.003889	0	$4.151 \cdot 10^{-5}$	$4.151 \cdot 10^{-5}$	0		
cHWB	0.0005755	0.0005755	0	$5.048 \cdot 10^{-6}$	$5.048 \cdot 10^{-6}$	0		
cHbq	0.0003272	0.0003272	0	0.000243	0.000243	0		
cH13	-8.924	-8.924	0	0.7626	0.7626	0		
cQQ1	-0.01219	-0.01219	0	0.2378	0.2378	0		
cQQ8	-45.87	-45.87	0	1.136	1.136	0		
cQb1	0.08468	0.08468	0	2.167	2.167	0		
cQb8	-3.525	-3.525	0	0.501	0.501	0		
$\mathtt{cbBIm}$	$7.782 \cdot 10^{-19}$	$7.903 \cdot 10^{-19}$	-0.01554	0.01678	0.01678	0		
cbBRe	-0.02879	-0.02879	0	0.2808	0.2808	0		
cbGIm	$7.299 \cdot 10^{-20}$	$8.801 \cdot 10^{-20}$	-0.2057	0.041	0.041	0		
cbGRe	-0.01883	-0.01883	0	0.412	0.412	0		
$\mathtt{cbHIm}$	$1.131 \cdot 10^{-19}$	$1.131 \cdot 10^{-19}$	$-2.034 \cdot 10^{-6}$	$2.822 \cdot 10^{-6}$	$2.822 \cdot 10^{-6}$	0		
cbHRe	0.003875	0.003875	0	$4.934 \cdot 10^{-6}$	$4.934 \cdot 10^{-6}$	0		
$\mathtt{cbWIm}$	$-2.878 \cdot 10^{-18}$	$-2.837 \cdot 10^{-18}$	0.01453	0.03987	0.03987	0		
cbWRe	0.00264	0.00264	0	0.1236	0.1236	0		
cbb	-309.4	-309.4	0	10.49	10.49	0		
cll1	4.462	4.462	0	0.1906	0.1906	0		
sm	0	0	0	18.75	18.75	0		

## **1.54** $b\bar{b} \rightarrow d\bar{d}$

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	$-5.9 \cdot 10^{-5}$	$-5.9 \cdot 10^{-5}$	0	$1.6 \cdot 10^{-6}$	$1.6 \cdot 10^{-6}$	0
cHQ1	0.001162	0.001162	0	$3.746 \cdot 10^{-5}$	$3.746 \cdot 10^{-5}$	0
cHQ3	$3.6 \cdot 10^{-5}$	$3.6 \cdot 10^{-5}$	0	$1.931 \cdot 10^{-6}$	$1.931 \cdot 10^{-6}$	0
cHWB	$2.003 \cdot 10^{-5}$	$2.003 \cdot 10^{-5}$	0	$1.056 \cdot 10^{-6}$	$1.056 \cdot 10^{-6}$	0
cHbq	$-7.073 \cdot 10^{-5}$	$-7.073 \cdot 10^{-5}$	0	$3.6 \cdot 10^{-5}$	$3.6\cdot 10^{-5}$	0
cHd	$-2.527 \cdot 10^{-5}$	$-2.527 \cdot 10^{-5}$	0	$4.35 \cdot 10^{-6}$	$4.35 \cdot 10^{-6}$	0
cHj1	$3.6 \cdot 10^{-5}$	$3.6\cdot10^{-5}$	0	$1.931 \cdot 10^{-6}$	$1.931 \cdot 10^{-6}$	0
сНјЗ	$6.05 \cdot 10^{-5}$	$6.05 \cdot 10^{-5}$	0	$2.625 \cdot 10^{-6}$	$2.625 \cdot 10^{-6}$	0
cH13	-0.00222	-0.00222	0	0.0001346	0.0001346	0
cQd1	-0.001966	-0.001966	0	0.1417	0.1417	0
cQd8	0.005776	0.005776	0	0.001945	0.001945	0
cQj11	0.005681	0.005681	0	0.02563	0.02563	0
cQj18	0.2382	0.2382	0	0.08039	0.08039	0
cQj31	0.003166	0.003166	0	0.01428	0.01428	0
cQj38	0.0203	0.0203	0	0.006847	0.006847	0
$\mathtt{cbBIm}$	$-1.627 \cdot 10^{-21}$		-0.0004519	0.0009174	0.0009174	0
cbBRe	$-2.113 \cdot 10^{-5}$	$-2.113 \cdot 10^{-5}$	0	0.0008732	0.0008732	0
cbGIm	$-9.189 \cdot 10^{-26}$	$-9.189 \cdot 10^{-26}$	0	0.01354	0.01354	0
cbGRe	-0.004666	-0.004666	0	0.03517	0.03517	0
$\mathtt{cbHIm}$	$4.113 \cdot 10^{-30}$	$3.729 \cdot 10^{-30}$	0.09324	$6.823 \cdot 10^{-13}$	$6.823 \cdot 10^{-13}$	0
cbHRe	$-5.385 \cdot 10^{-13}$	$-5.385 \cdot 10^{-13}$	0	$6.822 \cdot 10^{-13}$	$6.822 \cdot 10^{-13}$	0
$\mathtt{cbWIm}$	$3.055 \cdot 10^{-20}$	$3.055 \cdot 10^{-20}$	0	0.003525	0.003525	0
cbWRe	-0.000153	-0.000153	0	0.005074	0.005074	0
cbd1	0.002919	0.002919	0	0.1072	0.1072	0
cbd8	0.3584	0.3584	$2.79 \cdot 10^{-8}$	0.1209	0.1209	0
cbj1	-0.0022	-0.0022	0	0.1588	0.1588	0
cbj8	0.3799	0.3799	0	0.1282	0.1282	0
cdBIm	$1.39 \cdot 10^{-28}$	$1.296 \cdot 10^{-28}$	0.0671	$7.185 \cdot 10^{-13}$	$7.185 \cdot 10^{-13}$	$-1.183 \cdot 10^{-6}$

cdBRe	$-7.575 \cdot 10^{-13}$	$-7.575 \cdot 10^{-13}$	$-5.809 \cdot 10^{-7}$	$3.675 \cdot 10^{-13}$	$3.675 \cdot 10^{-13}$	$-1.17 \cdot 10^{-6}$
cdGIm	$-5.687 \cdot 10^{-27}$	$-5.185 \cdot 10^{-27}$	0.08837	$1.409 \cdot 10^{-11}$	$1.409 \cdot 10^{-11}$	$-1.136 \cdot 10^{-6}$
cdGRe	$-1.398 \cdot 10^{-10}$	$-1.398 \cdot 10^{-10}$	$-6.436 \cdot 10^{-7}$	$2.408 \cdot 10^{-11}$	$2.408 \cdot 10^{-11}$	$-1.163 \cdot 10^{-6}$
$\mathtt{cdHIm}$	$2 \cdot 10^{-31}$	$2.048 \cdot 10^{-31}$	-0.02397	$3.933 \cdot 10^{-16}$	$3.933 \cdot 10^{-16}$	$-1.17 \cdot 10^{-6}$
cdHRe	$-1.304 \cdot 10^{-14}$	$-1.304 \cdot 10^{-14}$	$-5.37 \cdot 10^{-7}$	$3.933 \cdot 10^{-16}$	$3.933 \cdot 10^{-16}$	$-1.17 \cdot 10^{-6}$
cdWIm	$-1.461 \cdot 10^{-28}$	$-8.802 \cdot 10^{-29}$	0.3974	$2.73 \cdot 10^{-12}$	$2.73 \cdot 10^{-12}$	$-1.172 \cdot 10^{-6}$
cdWRe	$-1.811 \cdot 10^{-12}$	$-1.811 \cdot 10^{-12}$	$-5.521 \cdot 10^{-7}$	$4.154 \cdot 10^{-12}$	$4.154 \cdot 10^{-12}$	$-1.18 \cdot 10^{-6}$
cjQbd1Im	$1.571 \cdot 10^{-28}$	$7.851 \cdot 10^{-29}$	0.5001	$1.439 \cdot 10^{-9}$	$1.439 \cdot 10^{-9}$	$-1.181 \cdot 10^{-6}$
cjQbd1Re	$1.273 \cdot 10^{-11}$	$1.273 \cdot 10^{-11}$	$-5.498 \cdot 10^{-7}$	$1.439 \cdot 10^{-9}$	$1.439 \cdot 10^{-9}$	$-1.181 \cdot 10^{-6}$
cjQbd8Im	$-1.753 \cdot 10^{-28}$	$-1.782 \cdot 10^{-28}$	-0.01656	$3.198 \cdot 10^{-10}$	$3.198 \cdot 10^{-10}$	$-1.157 \cdot 10^{-6}$
cjQbd8Re	$1.528 \cdot 10^{-11}$	$1.528 \cdot 10^{-11}$	$-5.889 \cdot 10^{-7}$	$3.198 \cdot 10^{-10}$	$3.198 \cdot 10^{-10}$	$-1.157 \cdot 10^{-6}$
cll1	0.00111	0.00111	0	$3.365 \cdot 10^{-5}$	$3.365 \cdot 10^{-5}$	0
sm	0	0	0	0.7498	0.7498	0

# $1.55 \quad b\bar{b} \to t\bar{t}$

		interfere	ence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  \qquad \verb mod2  \qquad 1-\verb mod2/mod1 $			
cHDD	0.000307	0.000307	0	$6.818 \cdot 10^{-6}  6.818 \cdot 10^{-6}  0$			
cHQ1	-0.0008314	-0.0008314	0	$1.602 \cdot 10^{-6}  1.602 \cdot 10^{-6}$			
cHQ3	0.04454	0.04454	0	$0.007655 \qquad 0.007655 \qquad 0$			
cHWB	-0.0001334	-0.0001334	0	$1.938 \cdot 10^{-5}  1.938 \cdot 10^{-5}$			
cHbq	$-5.799 \cdot 10^{-5}$	$-5.799 \cdot 10^{-5}$	0	$6.021 \cdot 10^{-6}  6.021 \cdot 10^{-6}$			
cH13	-0.08172	-0.08172	0	$0.01132 \qquad 0.01132 \qquad 0$			
cHt	-0.0006878	-0.0006878	0	$3.612 \cdot 10^{-6}  3.612 \cdot 10^{-6} \qquad \qquad 0$			
cHtbIm	$-1.581 \cdot 10^{-21}$	$-1.393 \cdot 10^{-21}$	0.119	$0.05123 \qquad 0.05123 \qquad 0$			
cHtbRe	-0.0001035	-0.0001035	0	$0.0006699 \qquad 0.0006699 \qquad 0$			
cQQ1	-1.115	-1.115	0	2.337 $2.337$ $0$			
cQQ8	-0.0008917	-0.0008917	$-2.433 \cdot 10^{-6}$	$0.3937 \qquad 0.3937 \qquad 0$			

- 01- 1	0.000466	0.000466	0	0.5014	0.5014	0
cQb1	-0.008466	-0.008466	0	0.5014	0.5014	0
cQb8	0.233	0.233	0	0.07205	0.07205	0
cQt1	-0.2388	-0.2388	0	0.5014	0.5014	0
cQt8	-0.08322	-0.08322	0	0.02223	0.02223	0
cQtQb1Im	$-3.613 \cdot 10^{-19}$	$-3.545 \cdot 10^{-19}$	0.01876	0.5959	0.5959	0
cQtQb1Re	-0.01132	-0.01132	0	0.5486	0.5486	0
cQtQb8Im	$-1.146 \cdot 10^{-18}$	$-1.15 \cdot 10^{-18}$	-0.003943	0.0954	0.0954	0
cQtQb8Re	0.009875	0.009875	0	0.1023	0.1023	0
cbBIm	$-2.465 \cdot 10^{-21}$	$-1.712 \cdot 10^{-21}$	0.3055	0.0007489	0.0007489	0
cbBRe	$5.924 \cdot 10^{-5}$	$5.924 \cdot 10^{-5}$	0	0.003009	0.003009	0
cbGIm	$-3.132 \cdot 10^{-19}$	$-3.132 \cdot 10^{-19}$	0	0.03255	0.03255	0
cbGRe	0.01142	0.01142	0	0.009815	0.009815	0
cbHIm	$2.729 \cdot 10^{-21}$	$8.47 \cdot 10^{-21}$	-2.103	0.0008223	0.0008223	0
cbHRe	-0.0004213	-0.0004213	0	0.0008222	0.0008222	0
cbWIm	$-9.551 \cdot 10^{-19}$	$-9.603 \cdot 10^{-19}$	-0.005444	0.2183	0.2183	0
cbWRe	-0.004418	-0.004418	0	0.07264	0.07264	0
cll1	0.04086	0.04086	0	0.002831	0.002831	0
ctBIm	$5.395 \cdot 10^{-19}$	$6.359 \cdot 10^{-19}$	-0.1786	0.0007249	0.0007249	0
ctBRe	0.007662	0.007662	0	0.000799	0.000799	0
ctGIm	$1.245 \cdot 10^{-17}$	$1.245 \cdot 10^{-17}$	0	0.02824	0.02824	0
ctGRe	-0.07123	-0.07123	0	0.0415	0.0415	0
ctHIm	$-1.496 \cdot 10^{-21}$	$-1.496 \cdot 10^{-21}$	0	$5.466 \cdot 10^{-7}$	$5.466 \cdot 10^{-7}$	0
ctHRe	$-1.025 \cdot 10^{-5}$	$-1.025 \cdot 10^{-5}$	0	$4.813 \cdot 10^{-7}$	$4.813 \cdot 10^{-7}$	0
ctWIm	$3.487 \cdot 10^{-17}$	$3.487 \cdot 10^{-17}$	0	0.1686	0.1686	0
ctWRe	0.3029	0.3029	0	0.3773	0.3773	0
ctb1	-0.005039	-0.005039	0	0.0852	0.0852	0
ctb8	0.4377	0.4377	0	0.1411	0.1411	0
sm	0	0	0	0.3622	0.3622	0

#### **1.56** $b\bar{b} \rightarrow u\bar{u}$

		interfere	ence		square	
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	$-4.135 \cdot 10^{-5}$	$-4.135 \cdot 10^{-5}$	0	$3.364 \cdot 10^{-6}$	$3.364 \cdot 10^{-6}$	0
cHQ1	0.000341	0.000341	0	$1.067 \cdot 10^{-5}$	$1.067 \cdot 10^{-5}$	0
cHQ3	$8.036 \cdot 10^{-5}$	$8.036 \cdot 10^{-5}$	0	$5.27 \cdot 10^{-6}$	$5.27\cdot10^{-6}$	0
cHWB	$-1.084 \cdot 10^{-5}$	$-1.084 \cdot 10^{-5}$	0	$1.298 \cdot 10^{-5}$	$1.298 \cdot 10^{-5}$	0
cHbq	$4.199 \cdot 10^{-5}$	$4.199 \cdot 10^{-5}$	0	$2.162 \cdot 10^{-5}$	$2.162 \cdot 10^{-5}$	0
cHj1	$-2.664 \cdot 10^{-5}$	$-2.664 \cdot 10^{-5}$	0	$2.411 \cdot 10^{-6}$	$2.411 \cdot 10^{-6}$	0
сНј3	0.0009105	0.0009105	0	$3.138 \cdot 10^{-5}$	$3.138 \cdot 10^{-5}$	0
cH13	-0.0007553	-0.0007553	0	$4.579 \cdot 10^{-5}$	$4.579 \cdot 10^{-5}$	0
cHu	$5.092 \cdot 10^{-5}$	$5.092 \cdot 10^{-5}$	0	$3.336 \cdot 10^{-6}$	$3.336 \cdot 10^{-6}$	0
cQj11	-0.009719	-0.009719	0	0.04678	0.04678	0
cQj18	0.05142	0.05142	0	0.01735	0.01735	0
cQj31	0.005373	0.005373	0	0.02586	0.02586	0
cQj38	-0.4045	-0.4045	0	0.1365	0.1365	0
cQu1	0.001297	0.001297	0	0.04675	0.04675	0
cQu8	0.3419	0.3419	0	0.1154	0.1154	0
cQujb1Im	$-1.988 \cdot 10^{-30}$	$-2.085 \cdot 10^{-30}$	-0.04904	$2.216 \cdot 10^{-14}$	$2.216 \cdot 10^{-14}$	$-1.444 \cdot 10^{-6}$
cQujb1Re	$-4.227 \cdot 10^{-13}$	$-4.227 \cdot 10^{-13}$	$-7.333 \cdot 10^{-7}$	$4.358 \cdot 10^{-11}$	$4.358 \cdot 10^{-11}$	$-1.446 \cdot 10^{-6}$
cQujb8Im	$-9.862 \cdot 10^{-29}$	$4.773 \cdot 10^{-30}$	1.048	$4.023 \cdot 10^{-12}$	$4.023 \cdot 10^{-12}$	$-1.442 \cdot 10^{-6}$
cQujb8Re	$-8.853 \cdot 10^{-13}$	$-8.853 \cdot 10^{-13}$	$-7.229 \cdot 10^{-7}$	$4.023 \cdot 10^{-12}$	$4.023 \cdot 10^{-12}$	$-1.442 \cdot 10^{-6}$
cbBIm	$3.264 \cdot 10^{-21}$	$3.262 \cdot 10^{-21}$	0.0004506	0.002066	0.002066	0
cbBRe	$7.014 \cdot 10^{-5}$	$7.014 \cdot 10^{-5}$	0	0.0002341	0.0002341	0
cbGIm	$4.595 \cdot 10^{-26}$	$4.595 \cdot 10^{-26}$	0	0.02974	0.02974	0
cbGRe	-0.004666	-0.004666	0	0.02353	0.02353	0
$\mathtt{cbHIm}$	$-7.1 \cdot 10^{-30}$	$-1.041 \cdot 10^{-30}$	0.8534	$1.46 \cdot 10^{-13}$	$1.46 \cdot 10^{-13}$	0
cbHRe	$-1.158 \cdot 10^{-13}$	$-1.158 \cdot 10^{-13}$	0	$1.46 \cdot 10^{-13}$	$1.46 \cdot 10^{-13}$	0
cbWIm	$4.101 \cdot 10^{-19}$	$4.101 \cdot 10^{-19}$	0	0.004433	0.004433	0

cbWRe	$-3.887 \cdot 10^{-5}$	$-3.887 \cdot 10^{-5}$	0	0.003154	0.003154	0
cbj1	-0.006933	-0.006933	0	0.5193	0.5193	0
cbj8	0.2553	0.2553	0	0.08615	0.08615	0
cbu1	-0.00425	-0.00425	0	0.07808	0.07808	0
cbu8	0.4045	0.4045	0	0.1365	0.1365	0
cjuQb1Im	$-5.75 \cdot 10^{-29}$	$-4.558 \cdot 10^{-29}$	0.2073	$7.696 \cdot 10^{-11}$	$7.696 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$
cjuQb1Re	$-3.728 \cdot 10^{-12}$	$-3.728 \cdot 10^{-12}$	$-7.242 \cdot 10^{-7}$	$7.696 \cdot 10^{-11}$	$7.696 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$
cjuQb8Im	$-6.839 \cdot 10^{-30}$	$-6.32 \cdot 10^{-30}$	0.07585	$1.71 \cdot 10^{-11}$	$1.71 \cdot 10^{-11}$	$-1.403 \cdot 10^{-6}$
cjuQb8Re	$1.061 \cdot 10^{-13}$	$1.061 \cdot 10^{-13}$	$-7.537 \cdot 10^{-7}$	$1.71 \cdot 10^{-11}$	$1.71 \cdot 10^{-11}$	$-1.403 \cdot 10^{-6}$
cll1	0.0003776	0.0003776	0	$1.145 \cdot 10^{-5}$	$1.145 \cdot 10^{-5}$	0
cuBIm	$-9.755 \cdot 10^{-29}$	$-1.114 \cdot 10^{-28}$	-0.1421	$1.087 \cdot 10^{-13}$	$1.087 \cdot 10^{-13}$	$-1.38 \cdot 10^{-6}$
cuBRe	$7.513 \cdot 10^{-14}$	$7.513 \cdot 10^{-14}$	$-7.321 \cdot 10^{-7}$	$1.087 \cdot 10^{-13}$	$1.087 \cdot 10^{-13}$	$-1.472 \cdot 10^{-6}$
cuGIm	$-2.219 \cdot 10^{-28}$	$-4.036 \cdot 10^{-28}$	-0.8188	$4.165 \cdot 10^{-12}$	$4.165 \cdot 10^{-12}$	$-1.441 \cdot 10^{-6}$
cuGRe	$-2.992 \cdot 10^{-11}$	$-2.992 \cdot 10^{-11}$	$-7.353 \cdot 10^{-7}$	$4.165 \cdot 10^{-12}$	$4.165 \cdot 10^{-12}$	$-1.441 \cdot 10^{-6}$
cuHIm	$-1.1 \cdot 10^{-31}$	$-2.853 \cdot 10^{-31}$	-1.593	$8.413 \cdot 10^{-17}$	$8.413 \cdot 10^{-17}$	$-1.45 \cdot 10^{-6}$
cuHRe	$-2.795 \cdot 10^{-15}$	$-2.795 \cdot 10^{-15}$	$-7.512 \cdot 10^{-7}$	$8.413 \cdot 10^{-17}$	$8.413 \cdot 10^{-17}$	$-1.45 \cdot 10^{-6}$
cuWIm	$4.523 \cdot 10^{-29}$	$9.74 \cdot 10^{-30}$	0.7847	$1.008 \cdot 10^{-12}$	$1.008 \cdot 10^{-12}$	$-1.488 \cdot 10^{-6}$
cuWRe	$-9.611 \cdot 10^{-13}$	$-9.611 \cdot 10^{-13}$	$-7.283 \cdot 10^{-7}$	$6.839 \cdot 10^{-13}$	$6.839 \cdot 10^{-13}$	$-1.448 \cdot 10^{-6}$
sm	0	0	0	0.9508	0.9508	0

#### 1.57 $b\bar{t} \rightarrow e^-\bar{\nu}_e$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHQ3	0.0001949	0.0001949	0	$5.909 \cdot 10^{-6}$	$5.909 \cdot 10^{-6}$	0	
cH13	-0.0001559	-0.0001559	0	$4.727 \cdot 10^{-6}$	$4.727 \cdot 10^{-6}$	0	
$\mathtt{cHtbIm}$	$-1.841 \cdot 10^{-23}$	$-1.841 \cdot 10^{-23}$	0	$1.342 \cdot 10^{-5}$	$1.342 \cdot 10^{-5}$	0	
cHtbRe	$-6.719 \cdot 10^{-7}$	$-6.719 \cdot 10^{-7}$	0	$9.402 \cdot 10^{-6}$	$9.402 \cdot 10^{-6}$	0	
cQ13	0.2381	0.2381	0	1.11	1.11	0	

cbWIm	$7.035 \cdot 10^{-21}$	$7.035 \cdot 10^{-21}$	0	0.002982	0.002982	0
cbWRe	-0.000125	-0.000125	0	0.001421	0.001421	0
ceWIm	$1.792 \cdot 10^{-28}$	$1.776 \cdot 10^{-28}$	0.008802	$3.253 \cdot 10^{-14}$	$3.253 \cdot 10^{-14}$	$-3.197 \cdot 10^{-6}$
ceWRe	$6.486 \cdot 10^{-15}$	$6.486 \cdot 10^{-15}$	$-1.604 \cdot 10^{-6}$	$1.904 \cdot 10^{-15}$	$1.904 \cdot 10^{-15}$	$-3.256 \cdot 10^{-6}$
cleQt1Im	$2.407 \cdot 10^{-16}$	$2.407 \cdot 10^{-16}$	$-1.62 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$
cleQt1Re	$1.425 \cdot 10^{-12}$	$1.425 \cdot 10^{-12}$	$-1.614 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$
cleQt3Im	$2.368 \cdot 10^{-16}$	$2.368 \cdot 10^{-16}$	$-1.605 \cdot 10^{-6}$	$9.316 \cdot 10^{-13}$	$9.316 \cdot 10^{-13}$	$-3.21 \cdot 10^{-6}$
cleQt3Re	$-5.453 \cdot 10^{-12}$	$-5.453 \cdot 10^{-12}$	$-1.596 \cdot 10^{-6}$	$1.125 \cdot 10^{-11}$	$1.125 \cdot 10^{-11}$	$-3.29 \cdot 10^{-6}$
clebQIm	$-5.961 \cdot 10^{-18}$	$-5.961 \cdot 10^{-18}$	$-1.61 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$
clebQRe	$-3.545 \cdot 10^{-14}$	$-3.545 \cdot 10^{-14}$	$-1.608 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$
cll1	0.0001559	0.0001559	0	$4.727 \cdot 10^{-6}$	$4.727 \cdot 10^{-6}$	0
ctWIm	$1.235 \cdot 10^{-19}$	$1.235 \cdot 10^{-19}$	0	0.003517	0.003517	0
ctWRe	-0.003413	-0.003413	0	0.004367	0.004367	0
sm	0	0	0	0.0006018	0.0006018	0

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

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  \qquad \verb mod2  \qquad 1-\verb mod2/mod1 $		
cHDD	-0.0001583	-0.0001583	0	$1.074 \cdot 10^{-5}$ $1.074 \cdot 10^{-5}$ 0		
cHWB	-0.0007427	-0.0007427	0	$6.953 \cdot 10^{-5}$ $6.953 \cdot 10^{-5}$ 0		
сНе	$2.356 \cdot 10^{-6}$	$2.356 \cdot 10^{-6}$	0	$4.25 \cdot 10^{-6}$ $4.25 \cdot 10^{-6}$ 0		
cHj1	-0.0001554	-0.0001554	0	$3.711 \cdot 10^{-6}$ $3.711 \cdot 10^{-6}$ 0		
сНј3	$-4.55 \cdot 10^{-5}$	$-4.55 \cdot 10^{-5}$	0	$4.31 \cdot 10^{-6}$ $4.31 \cdot 10^{-6}$ 0		
cHl1	0.0002191	0.0002191	0	$5.848 \cdot 10^{-6}$ $5.848 \cdot 10^{-6}$ 0		
cH13	-0.0002551	-0.0002551	0	$1.567 \cdot 10^{-5}$ $1.567 \cdot 10^{-5}$ 0		
cHu	-0.0001158	-0.0001158	0	$6.656 \cdot 10^{-6}$ $6.656 \cdot 10^{-6}$ 0		
ceBIm	$3.507 \cdot 10^{-27}$	$5.302 \cdot 10^{-27}$	-0.5119	$3.831 \cdot 10^{-10}  3.831 \cdot 10^{-10}  -5.482 \cdot 10^{-7}$		
ceBRe	$6.167 \cdot 10^{-10}$	$6.167 \cdot 10^{-10}$	$-2.757 \cdot 10^{-7}$	$3.831 \cdot 10^{-10}$ $3.831 \cdot 10^{-10}$ $-5.743 \cdot 10^{-7}$		

ceHIm	$-1.03 \cdot 10^{-29}$	$-7.494 \cdot 10^{-30}$	0.2723	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$-5.812 \cdot 10^{-7}$
ceHRe	$-2.069 \cdot 10^{-13}$	$-2.069 \cdot 10^{-13}$	$-2.9 \cdot 10^{-7}$	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$-5.65 \cdot 10^{-7}$
ceWIm	$3.551 \cdot 10^{-26}$	$2.537 \cdot 10^{-26}$	0.2855	$7.145 \cdot 10^{-10}$	$7.145 \cdot 10^{-10}$	$-5.598 \cdot 10^{-7}$
ceWRe	$-5.943 \cdot 10^{-10}$	$-5.943 \cdot 10^{-10}$	$-2.692 \cdot 10^{-7}$	$7.826 \cdot 10^{-10}$	$7.826 \cdot 10^{-10}$	$-5.75 \cdot 10^{-7}$
ceu	-0.0002936	-0.0002936	0	0.001797	0.001797	0
cje	-0.004188	-0.004188	0	0.1046	0.1046	0
cleju1Im	$1.514 \cdot 10^{-30}$	$1.52 \cdot 10^{-30}$	-0.003371	$3.266 \cdot 10^{-12}$	$3.266 \cdot 10^{-12}$	$-3.98 \cdot 10^{-7}$
cleju1Re	$6.607 \cdot 10^{-12}$	$6.607 \cdot 10^{-12}$	$-1.968 \cdot 10^{-7}$	$3.266 \cdot 10^{-12}$	$3.266 \cdot 10^{-12}$	$-3.98 \cdot 10^{-7}$
cleju3Im	$-6.681 \cdot 10^{-29}$	$1.137 \cdot 10^{-28}$	2.701	$1.31 \cdot 10^{-12}$	$1.31 \cdot 10^{-12}$	$-3.817 \cdot 10^{-7}$
cleju3Re	$8.447 \cdot 10^{-12}$	$8.447 \cdot 10^{-12}$	$-1.894 \cdot 10^{-7}$	$4.697 \cdot 10^{-12}$	$4.697 \cdot 10^{-12}$	$-4.045 \cdot 10^{-7}$
clj1	-0.006287	-0.006287	0	0.02681	0.02681	0
clj3	0.03172	0.03172	0	0.1353	0.1353	0
cll1	0.0001456	0.0001456	0	$4.415 \cdot 10^{-6}$	$4.415 \cdot 10^{-6}$	0
clu	-0.02322	-0.02322	0	0.2862	0.2862	0
cuBIm	$-1.121 \cdot 10^{-23}$	$-1.121 \cdot 10^{-23}$	$-1.597 \cdot 10^{-5}$	$1.203 \cdot 10^{-7}$	$1.203 \cdot 10^{-7}$	$3.324 \cdot 10^{-7}$
cuBRe	$-6.639 \cdot 10^{-8}$	$-6.639 \cdot 10^{-8}$	$1.356 \cdot 10^{-7}$	$2.47 \cdot 10^{-8}$	$2.47 \cdot 10^{-8}$	$2.834 \cdot 10^{-7}$
cuHIm	$1.906 \cdot 10^{-30}$	$1.028 \cdot 10^{-29}$	-4.391	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$2.744 \cdot 10^{-7}$
cuHRe	$-2.071 \cdot 10^{-13}$	$-2.071 \cdot 10^{-13}$	$1.449 \cdot 10^{-7}$	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$2.744 \cdot 10^{-7}$
cuWIm	$4.541 \cdot 10^{-23}$	$4.541 \cdot 10^{-23}$	$-7.906 \cdot 10^{-6}$	$1.078 \cdot 10^{-7}$	$1.078 \cdot 10^{-7}$	$2.782 \cdot 10^{-7}$
cuWRe	$-6.134 \cdot 10^{-8}$	$-6.134 \cdot 10^{-8}$	$1.467 \cdot 10^{-7}$	$1.737 \cdot 10^{-8}$	$1.737 \cdot 10^{-8}$	$2.879 \cdot 10^{-7}$
sm	0	0	0	0.0006223	0.0006223	0

#### $1.59 \quad c\bar{s} \to \tau^+ \nu_{\tau}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сНјЗ	0.0003372	0.0003372	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0
cH13	-0.0003606	-0.0003606	0	$1.093 \cdot 10^{-5}$	$1.093 \cdot 10^{-5}$	0
cHudIm	$2.884 \cdot 10^{-31}$	$3.468 \cdot 10^{-31}$	-0.2025	$1.193 \cdot 10^{-16}$	$1.193 \cdot 10^{-16}$	$9.219 \cdot 10^{-7}$

cHudRe	$-4.122 \cdot 10^{-16}$	$-4.122 \cdot 10^{-16}$	$4.852 \cdot 10^{-7}$	$4.123 \cdot 10^{-17}$	$4.123 \cdot 10^{-17}$	$9.459 \cdot 10^{-7}$
cdWIm	$-1.453 \cdot 10^{-24}$	$-1.488 \cdot 10^{-24}$	-0.02382	$1.218 \cdot 10^{-9}$	$1.218 \cdot 10^{-9}$	$5.748 \cdot 10^{-7}$
cdWRe	$-1.402 \cdot 10^{-9}$	$-1.402 \cdot 10^{-9}$	$2.852 \cdot 10^{-7}$	$5.916 \cdot 10^{-10}$	$5.916 \cdot 10^{-10}$	$6.254 \cdot 10^{-7}$
ceWIm	$-4.46 \cdot 10^{-24}$	$-2.986 \cdot 10^{-24}$	0.3304	$4.042 \cdot 10^{-7}$	$4.042 \cdot 10^{-7}$	$6.11 \cdot 10^{-6}$
ceWRe	$-1.505 \cdot 10^{-7}$	$-1.505 \cdot 10^{-7}$	$3.056 \cdot 10^{-6}$	$3.441 \cdot 10^{-7}$	$3.441 \cdot 10^{-7}$	$6.103 \cdot 10^{-6}$
${\tt cledjIm}$	$8.403 \cdot 10^{-16}$	$8.403 \cdot 10^{-16}$	$3.273 \cdot 10^{-6}$	$2.477 \cdot 10^{-12}$	$2.477 \cdot 10^{-12}$	$6.58 \cdot 10^{-6}$
cledjRe	$-4.943 \cdot 10^{-12}$	$-4.943 \cdot 10^{-12}$	$3.278 \cdot 10^{-6}$	$2.477 \cdot 10^{-12}$	$2.477 \cdot 10^{-12}$	$6.58 \cdot 10^{-6}$
cleju1Im	$-1.55 \cdot 10^{-13}$	$-1.55 \cdot 10^{-13}$	$3.29 \cdot 10^{-6}$	$4.619 \cdot 10^{-10}$	$4.619 \cdot 10^{-10}$	$6.473 \cdot 10^{-6}$
cleju1Re	$9.192 \cdot 10^{-10}$	$9.192 \cdot 10^{-10}$	$3.242 \cdot 10^{-6}$	$4.619 \cdot 10^{-10}$	$4.619 \cdot 10^{-10}$	$6.495 \cdot 10^{-6}$
cleju3Im	$-3.156 \cdot 10^{-13}$	$-3.156 \cdot 10^{-13}$	$3.232 \cdot 10^{-6}$	$1.797 \cdot 10^{-9}$	$1.797 \cdot 10^{-9}$	$6.511 \cdot 10^{-6}$
cleju3Re	$1.366 \cdot 10^{-9}$	$1.366 \cdot 10^{-9}$	$3.221 \cdot 10^{-6}$	$9.302 \cdot 10^{-10}$	$9.302 \cdot 10^{-10}$	$6.482 \cdot 10^{-6}$
clj3	0.2127	0.2127	0	0.9913	0.9913	0
cll1	0.0003606	0.0003606	0	$1.093 \cdot 10^{-5}$	$1.093 \cdot 10^{-5}$	0
cuWIm	$1.833 \cdot 10^{-22}$	$1.841 \cdot 10^{-22}$	-0.004114	$2.289 \cdot 10^{-7}$	$2.289 \cdot 10^{-7}$	$2.621 \cdot 10^{-7}$
cuWRe	$-1.291 \cdot 10^{-7}$	$-1.291 \cdot 10^{-7}$	$1.549 \cdot 10^{-7}$	$2.271 \cdot 10^{-7}$	$2.271 \cdot 10^{-7}$	$3.082 \cdot 10^{-7}$
sm	0	0	0	$7.994 \cdot 10^{-7}$	$7.994 \cdot 10^{-7}$	0

#### **1.60** $d\bar{d} \rightarrow c\bar{c}$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	$-5.001 \cdot 10^{-5}$	$-5.001 \cdot 10^{-5}$	0	$3.527 \cdot 10^{-6}$	$3.527 \cdot 10^{-6}$	0
cHWB	$-1.955 \cdot 10^{-5}$	$-1.955 \cdot 10^{-5}$	0	$1.181 \cdot 10^{-5}$	$1.181 \cdot 10^{-5}$	0
cHd	$-2.261 \cdot 10^{-5}$	$-2.261 \cdot 10^{-5}$	0	$9.195 \cdot 10^{-6}$	$9.195 \cdot 10^{-6}$	0
cHj1	$1.858 \cdot 10^{-5}$	$1.858 \cdot 10^{-5}$	0	$3.937 \cdot 10^{-6}$	$3.937 \cdot 10^{-6}$	0
сНј3	$8.191 \cdot 10^{-5}$	$8.191 \cdot 10^{-5}$	0	$8.565 \cdot 10^{-6}$	$8.565 \cdot 10^{-6}$	0
cH13	-0.001425	-0.001425	0	$8.641 \cdot 10^{-5}$	$8.641 \cdot 10^{-5}$	0
cHu	0.0001531	0.0001531	0	$3.914 \cdot 10^{-5}$	$3.914 \cdot 10^{-5}$	0
$\mathtt{cdBIm}$	$2.637 \cdot 10^{-28}$	$2.638 \cdot 10^{-28}$	-0.0001973	$1.181 \cdot 10^{-12}$	$1.181 \cdot 10^{-12}$	$-1.185 \cdot 10^{-6}$

cdBRe	$1.386 \cdot 10^{-12}$	$1.386 \cdot 10^{-12}$	$-5.77 \cdot 10^{-7}$	$2.066 \cdot 10^{-12}$	$2.066 \cdot 10^{-12}$	$-1.162 \cdot 10^{-6}$
cdGIm	$-6.444 \cdot 10^{-35}$	$3.367 \cdot 10^{-33}$	53.26	$2.352 \cdot 10^{-11}$	$2.352 \cdot 10^{-11}$	$-1.19 \cdot 10^{-6}$
cdGRe	$-1.398 \cdot 10^{-10}$	$-1.398 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$	$2.405 \cdot 10^{-12}$	$2.405 \cdot 10^{-12}$	$-1.164 \cdot 10^{-6}$
cdHIm	$-2.243 \cdot 10^{-31}$	$-1.597 \cdot 10^{-31}$	0.2878	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$-1.184 \cdot 10^{-6}$
cdHRe	$-1.189 \cdot 10^{-15}$	$-1.189 \cdot 10^{-15}$	$-5.886 \cdot 10^{-7}$	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$-1.184 \cdot 10^{-6}$
cdWIm	$1.592 \cdot 10^{-28}$	$1.592 \cdot 10^{-28}$	$-8.177 \cdot 10^{-5}$	$2.043 \cdot 10^{-12}$	$2.043 \cdot 10^{-12}$	$-1.175 \cdot 10^{-6}$
cdWRe	$-5.189 \cdot 10^{-12}$	$-5.189 \cdot 10^{-12}$	$-5.781 \cdot 10^{-7}$	$2.216 \cdot 10^{-12}$	$2.216 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$
cjd1	-0.01024	-0.01024	0	0.7675	0.7675	0
cjd8	0.5529	0.5529	0	0.1866	0.1866	0
cjj11	-0.00291	-0.00291	0	0.02801	0.02801	0
cjj18	0.02415	0.02415	0	0.0163	0.0163	0
cjj31	0.02293	0.02293	0	0.2208	0.2208	0
cjj38	-0.0006048	-0.0006048	$1.653 \cdot 10^{-8}$	0.0004068	0.0004068	0
cju1	0.02074	0.02074	0	0.7475	0.7475	0
cju8	0.3222	0.3222	0	0.1087	0.1087	0
cjujd11Im	$-1.535 \cdot 10^{-31}$	$-8.845 \cdot 10^{-32}$	0.4238	$6.036 \cdot 10^{-17}$	$6.036 \cdot 10^{-17}$	$-6.13 \cdot 10^{-7}$
cjujd11Re	$-4.437 \cdot 10^{-15}$	$-4.437 \cdot 10^{-15}$	$-3.155 \cdot 10^{-7}$	$1.101 \cdot 10^{-14}$	$1.101 \cdot 10^{-14}$	$-6.358 \cdot 10^{-7}$
cjujd1Im	$-2.411 \cdot 10^{-32}$	$-2.128 \cdot 10^{-30}$	-87.25	$1.914 \cdot 10^{-14}$	$1.914 \cdot 10^{-14}$	$-6.269 \cdot 10^{-7}$
cjujd1Re	$-3.871 \cdot 10^{-14}$	$-3.871 \cdot 10^{-14}$	$-3.1 \cdot 10^{-7}$	$1.914 \cdot 10^{-14}$	$1.914 \cdot 10^{-14}$	$-5.747 \cdot 10^{-7}$
cjujd81Im	$-7.172 \cdot 10^{-31}$	$-3.201 \cdot 10^{-31}$	0.5536	$3.572 \cdot 10^{-15}$	$3.572 \cdot 10^{-15}$	$-5.88 \cdot 10^{-7}$
cjujd81Re	$-3.042 \cdot 10^{-15}$	$-3.042 \cdot 10^{-15}$	$-2.958 \cdot 10^{-7}$	$7.913 \cdot 10^{-17}$	$7.913 \cdot 10^{-17}$	$-5.94 \cdot 10^{-7}$
cjujd8Im	$-1.749 \cdot 10^{-31}$	$2.049 \cdot 10^{-31}$	2.172	$4.254 \cdot 10^{-15}$	$4.254 \cdot 10^{-15}$	$-6.112 \cdot 10^{-7}$
cjujd8Re	$-1.44 \cdot 10^{-15}$	$-1.44 \cdot 10^{-15}$	$-2.777 \cdot 10^{-7}$	$4.254 \cdot 10^{-15}$	$4.254 \cdot 10^{-15}$	$-5.877 \cdot 10^{-7}$
cll1	0.0007126	0.0007126	0	$2.16 \cdot 10^{-5}$	$2.16 \cdot 10^{-5}$	0
cuBIm	$5.024 \cdot 10^{-25}$	$1.883 \cdot 10^{-24}$	-2.748	$1.7 \cdot 10^{-8}$	$1.7 \cdot 10^{-8}$	$2.353 \cdot 10^{-7}$
cuBRe	$-1.334 \cdot 10^{-8}$	$-1.334 \cdot 10^{-8}$	$1.499 \cdot 10^{-7}$	$2.407 \cdot 10^{-8}$	$2.407 \cdot 10^{-8}$	$2.908 \cdot 10^{-7}$
cuGIm	$-8.21 \cdot 10^{-24}$	$-4.465 \cdot 10^{-24}$	0.4562	$9.226 \cdot 10^{-7}$	$9.226 \cdot 10^{-7}$	$2.818 \cdot 10^{-7}$
cuGRe	$-1.034 \cdot 10^{-5}$	$-1.034 \cdot 10^{-5}$	$9.669 \cdot 10^{-8}$	$9.226 \cdot 10^{-7}$	$9.226 \cdot 10^{-7}$	$2.818 \cdot 10^{-7}$
$\operatorname{cuHIm}$	$1.508 \cdot 10^{-31}$	$-1.285 \cdot 10^{-32}$	1.085	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$2.755 \cdot 10^{-7}$

cuHRe	$-1.189 \cdot 10^{-15}$	$-1.189 \cdot 10^{-15}$	$1.682 \cdot 10^{-7}$	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$2.755 \cdot 10^{-7}$
cuWIm	$-5.578 \cdot 10^{-25}$	$-1.118 \cdot 10^{-23}$	-19.04	$2.857 \cdot 10^{-7}$	$2.857 \cdot 10^{-7}$	$2.801 \cdot 10^{-7}$
cuWRe	$-3.005 \cdot 10^{-9}$	$-3.005 \cdot 10^{-9}$	$1.331 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	$2.64 \cdot 10^{-7}$
cud1	$-2.494 \cdot 10^{-5}$	$-2.494 \cdot 10^{-5}$	0	0.0004576	0.0004576	0
cud8	0.6212	0.6212	0	0.2096	0.2096	0
$\mathtt{sm}$	0	0	0	0.932	0.932	0

# $1.61 \quad d\bar{d} \rightarrow e^+e^-$

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHDD	$-5.891 \cdot 10^{-5}$	$-5.891 \cdot 10^{-5}$	0	$4.125 \cdot 10^{-6}$	$4.125 \cdot 10^{-6}$	0	
cHWB	-0.0001409	-0.0001409	0	$1.69 \cdot 10^{-5}$	$1.69 \cdot 10^{-5}$	0	
cHd	$4.354 \cdot 10^{-5}$	$4.354 \cdot 10^{-5}$	0	$5.34 \cdot 10^{-6}$	$5.34 \cdot 10^{-6}$	0	
сНе	$-2.688 \cdot 10^{-5}$	$-2.688 \cdot 10^{-5}$	0	$2.477 \cdot 10^{-6}$	$2.477 \cdot 10^{-6}$	0	
cHj1	0.0001692	0.0001692	0	$4.282 \cdot 10^{-6}$	$4.282 \cdot 10^{-6}$	0	
сНј3	$4.612 \cdot 10^{-5}$	$4.612 \cdot 10^{-5}$	0	$3.178 \cdot 10^{-6}$	$3.178 \cdot 10^{-6}$	0	
cHl1	0.0001388	0.0001388	0	$5.337 \cdot 10^{-6}$	$5.337 \cdot 10^{-6}$	0	
cH13	-0.0002711	-0.0002711	0	$9.73 \cdot 10^{-6}$	$9.73 \cdot 10^{-6}$	0	
$\mathtt{cdBIm}$	$-6.327 \cdot 10^{-27}$	$-6.327 \cdot 10^{-27}$	0	$1.01 \cdot 10^{-12}$	$1.01 \cdot 10^{-12}$	$-1.189 \cdot 10^{-6}$	
cdBRe	$1.377 \cdot 10^{-12}$	$1.377 \cdot 10^{-12}$	$-5.809 \cdot 10^{-7}$	$1.499 \cdot 10^{-12}$	$1.499 \cdot 10^{-12}$	$-1.134 \cdot 10^{-6}$	
$\mathtt{cdHIm}$	$-2.293 \cdot 10^{-41}$	$1.853 \cdot 10^{-41}$	1.808	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-1.174 \cdot 10^{-6}$	
cdHRe	$-6.481 \cdot 10^{-23}$	$-6.481 \cdot 10^{-23}$	$-5.863 \cdot 10^{-7}$	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-1.174 \cdot 10^{-6}$	
$\mathtt{cdWIm}$	$-1.191 \cdot 10^{-28}$	$-1.191 \cdot 10^{-28}$	$2.872 \cdot 10^{-5}$	$1.076 \cdot 10^{-12}$	$1.076 \cdot 10^{-12}$	$-1.115 \cdot 10^{-6}$	
cdWRe	$-1.787 \cdot 10^{-12}$	$-1.787 \cdot 10^{-12}$	$-5.596 \cdot 10^{-7}$	$2.442 \cdot 10^{-13}$	$2.442 \cdot 10^{-13}$	$-1.188 \cdot 10^{-6}$	
ceBIm	$1.479 \cdot 10^{-29}$	$1.479 \cdot 10^{-29}$	0.0004398	$2.284 \cdot 10^{-15}$	$2.284 \cdot 10^{-15}$	$-3.196 \cdot 10^{-6}$	
ceBRe	$1.269 \cdot 10^{-16}$	$1.269 \cdot 10^{-16}$	$-1.655 \cdot 10^{-6}$	$2.284 \cdot 10^{-15}$	$2.284 \cdot 10^{-15}$	$-3.196 \cdot 10^{-6}$	
$\mathtt{ceHIm}$	$-5.614 \cdot 10^{-39}$	$-2.982 \cdot 10^{-39}$	0.4689	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-3.216 \cdot 10^{-6}$	
ceHRe	$-6.424 \cdot 10^{-23}$	$-6.424 \cdot 10^{-23}$	$-1.603 \cdot 10^{-6}$	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-3.216 \cdot 10^{-6}$	

ceWIm	$2.353 \cdot 10^{-29}$	$2.342 \cdot 10^{-29}$	0.004691	$1.438 \cdot 10^{-14}$	$1.438 \cdot 10^{-14}$	$-3.2 \cdot 10^{-6}$
ceWRe	$-1.234 \cdot 10^{-14}$	$-1.234 \cdot 10^{-14}$	$-1.54 \cdot 10^{-6}$	$1.746 \cdot 10^{-14}$	$1.746 \cdot 10^{-14}$	$-3.208 \cdot 10^{-6}$
ced	0.0168	0.0168	0	0.2057	0.2057	0
cje	-0.0005554	-0.0005554	0	0.01334	0.01334	0
cld	0.0006223	0.0006223	0	0.01534	0.01534	0
${\tt cledjIm}$	$-1.305 \cdot 10^{-37}$	$-8.866 \cdot 10^{-38}$	0.3204	$1.033 \cdot 10^{-21}$	$1.033 \cdot 10^{-21}$	$-4.453 \cdot 10^{-6}$
cledjRe	$-2.088 \cdot 10^{-21}$	$-2.088 \cdot 10^{-21}$	$-2.251 \cdot 10^{-6}$	$1.033 \cdot 10^{-21}$	$1.033 \cdot 10^{-21}$	$-4.453 \cdot 10^{-6}$
clj1	0.001395	0.001395	0	0.007197	0.007197	0
clj3	0.05948	0.05948	0	0.3068	0.3068	0
cll1	0.0002775	0.0002775	0	$8.412 \cdot 10^{-6}$	$8.412 \cdot 10^{-6}$	0
sm	0	0	0	0.001694	0.001694	0

## **1.62** $d\bar{d} \rightarrow s\bar{s}$

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	$-7.158 \cdot 10^{-5}$	$-7.158 \cdot 10^{-5}$	0	$1.843 \cdot 10^{-6}$	$1.843 \cdot 10^{-6}$	0	
cHWB	$4.748 \cdot 10^{-5}$	$4.748 \cdot 10^{-5}$	0	$2.222 \cdot 10^{-6}$	$2.222 \cdot 10^{-6}$	0	
cHd	$-5.106 \cdot 10^{-5}$	$-5.106 \cdot 10^{-5}$	0	$1.221 \cdot 10^{-5}$	$1.221 \cdot 10^{-5}$	0	
cHj1	0.0004873	0.0004873	0	$3.172 \cdot 10^{-5}$	$3.172 \cdot 10^{-5}$	0	
cHj3	0.0006919	0.0006919	0	$4.482 \cdot 10^{-5}$	$4.482 \cdot 10^{-5}$	0	
cH13	-0.002705	-0.002705	0	0.000164	0.000164	0	
cdBIm	$1.433 \cdot 10^{-26}$	$-1.851 \cdot 10^{-26}$	2.292	$2.62 \cdot 10^{-10}$	$2.62 \cdot 10^{-10}$	$6.488 \cdot 10^{-7}$	
cdBRe	$-3.3 \cdot 10^{-10}$	$-3.3 \cdot 10^{-10}$	$3.03 \cdot 10^{-7}$	$6.104 \cdot 10^{-11}$	$6.104 \cdot 10^{-11}$	$6.389 \cdot 10^{-7}$	
$\mathtt{cdGIm}$	$-1.105 \cdot 10^{-25}$	$-5.461 \cdot 10^{-26}$	0.5056	$2.34 \cdot 10^{-9}$	$2.34 \cdot 10^{-9}$	$5.984 \cdot 10^{-7}$	
cdGRe	$-5.56 \cdot 10^{-8}$	$-5.56 \cdot 10^{-8}$	$3.058 \cdot 10^{-7}$	$6.241 \cdot 10^{-9}$	$6.241 \cdot 10^{-9}$	$6.249 \cdot 10^{-7}$	
cdHIm	$2.244 \cdot 10^{-34}$	$2.616 \cdot 10^{-34}$	-0.1662	$3.893 \cdot 10^{-19}$	$3.893 \cdot 10^{-19}$	$-2.568 \cdot 10^{-7}$	
cdHRe	$-1.283 \cdot 10^{-17}$	$-1.283 \cdot 10^{-17}$	$-1.559 \cdot 10^{-7}$	$7.787 \cdot 10^{-19}$	$7.787 \cdot 10^{-19}$	$-2.697 \cdot 10^{-7}$	
cdWIm	$1.703 \cdot 10^{-26}$	$1.902 \cdot 10^{-26}$	-0.1169	$1.865 \cdot 10^{-9}$	$1.865 \cdot 10^{-9}$	$6.433 \cdot 10^{-7}$	

cdWRe	$1.558 \cdot 10^{-11}$	$1.558 \cdot 10^{-11}$	$2.568 \cdot 10^{-7}$	$3.768 \cdot 10^{-10}$	$3.768 \cdot 10^{-10}$	$6.104 \cdot 10^{-7}$
cdd1	0.05244	0.05244	0	3.852	3.852	0
cdd8	0.003707	0.003707	0	0.002502	0.002502	0
cjd1	-0.007967	-0.007967	0	0.5741	0.5741	0
cjd8	0.8713	0.8713	0	0.2941	0.2941	0
cjj11	0.01543	0.01543	0	0.1393	0.1393	0
cjj18	0.5975	0.5975	$-1.674 \cdot 10^{-8}$	0.4033	0.4033	0
cjj31	0.4269	0.4269	0	3.852	3.852	0
cjj38	0.9219	0.9219	$-1.085 \cdot 10^{-8}$	0.6223	0.6223	0
cll1	0.001352	0.001352	0	$4.099 \cdot 10^{-5}$	$4.099 \cdot 10^{-5}$	0
sm	0	0	0	0.5137	0.5137	0

# **1.63** $e^+\nu_{\mu} \to e^+\nu_{\mu}$

		interfer	ence		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
cHDD	-0.007984	-0.007984	0	0.0008953	0.0008953	0		
cHWB	-0.0008835	-0.0008835	0	$5.011 \cdot 10^{-5}$	$5.011 \cdot 10^{-5}$	0		
сНе	-0.01979	-0.01979	0	0.001346	0.001346	0		
cHl1	-0.0004503	-0.0004503	0	$1.365 \cdot 10^{-5}$	$1.365 \cdot 10^{-5}$	0		
cH13	-0.001906	-0.001906	0	0.0008809	0.0008809	0		
ceBIm	$-2.69 \cdot 10^{-30}$	$-2.707 \cdot 10^{-30}$	-0.00626	$1.954 \cdot 10^{-15}$	$1.954 \cdot 10^{-15}$	$-3.225 \cdot 10^{-6}$		
ceBRe	$2.348 \cdot 10^{-14}$	$2.348 \cdot 10^{-14}$	$-1.618 \cdot 10^{-6}$	$1.954 \cdot 10^{-15}$	$1.954 \cdot 10^{-15}$	$-3.225 \cdot 10^{-6}$		
$\mathtt{ceWIm}$	$-5.07 \cdot 10^{-30}$	$-5.031 \cdot 10^{-30}$	0.007588	$6.813 \cdot 10^{-15}$	$6.813 \cdot 10^{-15}$	$-3.214 \cdot 10^{-6}$		
ceWRe	$3.495 \cdot 10^{-13}$	$3.495 \cdot 10^{-13}$	$-1.602 \cdot 10^{-6}$	$7.398 \cdot 10^{-13}$	$7.398 \cdot 10^{-13}$	$-3.217 \cdot 10^{-6}$		
cle	-0.748	-0.748	0	1	1	0		
cll	0.5244	0.5244	0	2.035	2.035	0		
cll1	0.03568	0.03568	0	0.001081	0.001081	0		
sm	0	0	0	0.004483	0.004483	0		

# **1.64** $e^+\nu_e \to \mu^+\nu_\mu$

			square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
cH13	$2.084 \cdot 10^{-20}$	$2.084 \cdot 10^{-20}$	0	$1.888 \cdot 10^{-37}$	$1.888 \cdot 10^{-37}$	0
${\tt ceWIm}$	$-2.576 \cdot 10^{-26}$		-2.007	$3.882 \cdot 10^{-9}$	$3.882 \cdot 10^{-9}$	$-5.667 \cdot 10^{-7}$
ceWRe	$-5.339 \cdot 10^{-9}$	$-5.339 \cdot 10^{-9}$	$-2.809 \cdot 10^{-7}$	$2.489 \cdot 10^{-9}$	$2.489 \cdot 10^{-9}$	$-5.625 \cdot 10^{-7}$
cll1	0.01084	0.01084	0	0.05085	0.05085	0
sm	0	0	0	0.02625	0.02625	0
1.65	$e^+\nu_e \to e^+\nu_e$					
	interference				square	
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
cHDD	-0.01804	-0.01804	0	0.004215	0.004215	0
cHWB	-0.001063	-0.001063	0	$7.11 \cdot 10^{-5}$	$7.11 \cdot 10^{-5}$	0
сНе	-0.002877	-0.002877	0	0.0001957	0.0001957	0
cHl1	0.004382	0.004382	0	0.0007745	0.0007745	0
cH13	0.005791	0.005791	0	0.001005	0.001005	0
ceBIm	$-1.257 \cdot 10^{-27}$	$-1.257 \cdot 10^{-27}$	$-4.104 \cdot 10^{-5}$	$1.328 \cdot 10^{-14}$	$1.328 \cdot 10^{-14}$	$-3.238 \cdot 10^{-6}$
ceBRe	$4.588 \cdot 10^{-14}$	$4.588 \cdot 10^{-14}$	$-1.591 \cdot 10^{-6}$	$1.328 \cdot 10^{-14}$	$1.328 \cdot 10^{-14}$	$-3.238 \cdot 10^{-6}$
ceWIm	$-2.419 \cdot 10^{-27}$	$-2.42 \cdot 10^{-27}$	-0.0003356	$2.125 \cdot 10^{-14}$	$2.125 \cdot 10^{-14}$	$-3.2 \cdot 10^{-6}$
ceWRe	$-4.228 \cdot 10^{-14}$	$-4.228 \cdot 10^{-14}$	$-1.608 \cdot 10^{-6}$	$5.91 \cdot 10^{-15}$	$5.91 \cdot 10^{-15}$	$-3.215 \cdot 10^{-6}$
cle	-0.7951	-0.7951	0	1	1	0
cll	2.291	2.291	0	3.018	3.018	0
cl11	2.134	2.134	0	3.048	3.048	0
sm	0	0	0	0.7903	0.7903	0

#### **1.66** $e^+\tau^- \to e^+\tau^-$

		ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	-0.004691	-0.004691	0	0.000309	0.000309	0	
cHWB	-0.009265	-0.009265	0	0.001498	0.001498	0	
сНе	0.002197	0.002197	0	0.0001214	0.0001214	0	
cHl1	$6.332 \cdot 10^{-5}$	$6.332 \cdot 10^{-5}$	0	0.0003657	0.0003657	0	
cH13	-11.53	-11.53	0	0.7098	0.7098	0	
$\mathtt{ceBIm}$	$1.764 \cdot 10^{-16}$	$1.764 \cdot 10^{-16}$	$3.062 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$6.129 \cdot 10^{-6}$	
ceBRe	$5.692 \cdot 10^{-7}$	$5.692 \cdot 10^{-7}$	$3.039 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$6.129 \cdot 10^{-6}$	
$\mathtt{ceHIm}$	$-1.159 \cdot 10^{-27}$	$-1.159 \cdot 10^{-27}$	$-1.122 \cdot 10^{-6}$	$1.597 \cdot 10^{-18}$	$1.597 \cdot 10^{-18}$	$1.441 \cdot 10^{-6}$	
ceHRe	$-5.514 \cdot 10^{-17}$	$-5.514 \cdot 10^{-17}$	$7.073 \cdot 10^{-7}$	$3.16 \cdot 10^{-18}$	$3.16 \cdot 10^{-18}$	$1.456 \cdot 10^{-6}$	
ceWIm	$3.608 \cdot 10^{-16}$	$3.608 \cdot 10^{-16}$	$3.049 \cdot 10^{-6}$	$7.546 \cdot 10^{-7}$	$7.546 \cdot 10^{-7}$	$6.096 \cdot 10^{-6}$	
ceWRe	$-1.489 \cdot 10^{-7}$	$-1.489 \cdot 10^{-7}$	$3.089 \cdot 10^{-6}$	$1.54 \cdot 10^{-6}$	$1.54 \cdot 10^{-6}$	$6.104 \cdot 10^{-6}$	
cee	-0.1039	-0.1039	0	0.5393	0.5393	0	
cle	-10.38	-10.38	0	2	2	0	
cll	-0.05817	-0.05817	0	0.3076	0.3076	0	
cll1	-11.66	-11.66	0	2.889	2.889	0	
sm	0	0	0	33.14	33.14	0	

#### **1.67** $e^+e^- \to \mu^+\mu^-$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	-0.002309	-0.002309	0	0.000134	0.000134	0
cHWB	-0.003857	-0.003857	0	0.0006372	0.0006372	0
сНе	0.0002179	0.0002179	0	$2.489 \cdot 10^{-5}$	$2.489 \cdot 10^{-5}$	0
cHl1	0.0008907	0.0008907	0	$3.813 \cdot 10^{-5}$	$3.813 \cdot 10^{-5}$	0

cH13	-0.001855	-0.001855	0	0.0001351	0.0001351	0
ceBIm	$-1.384 \cdot 10^{-26}$	$-3.185 \cdot 10^{-27}$	0.7699	$1.799 \cdot 10^{-9}$	$1.799 \cdot 10^{-9}$	$-5.56 \cdot 10^{-7}$
ceBRe	$3.336 \cdot 10^{-9}$	$3.336 \cdot 10^{-9}$	$-2.997 \cdot 10^{-7}$	$1.799 \cdot 10^{-9}$	$1.799 \cdot 10^{-9}$	$-5.56 \cdot 10^{-7}$
$\mathtt{ceHIm}$	$3.062 \cdot 10^{-36}$	$-7.655 \cdot 10^{-37}$	1.25	$6.017 \cdot 10^{-21}$	$6.017 \cdot 10^{-21}$	$-1.895 \cdot 10^{-6}$
ceHRe	$-1.996 \cdot 10^{-19}$	$-1.996 \cdot 10^{-19}$	$-9.518 \cdot 10^{-7}$	$1.203 \cdot 10^{-20}$	$1.203 \cdot 10^{-20}$	$-1.911 \cdot 10^{-6}$
$\mathtt{ceWIm}$	$-4.883 \cdot 10^{-27}$	$-3.135 \cdot 10^{-26}$	-5.42	$1.265 \cdot 10^{-9}$	$1.265 \cdot 10^{-9}$	$-5.535 \cdot 10^{-7}$
ceWRe	$-2.589 \cdot 10^{-9}$	$-2.589 \cdot 10^{-9}$	$-2.704 \cdot 10^{-7}$	$2.222 \cdot 10^{-9}$	$2.222 \cdot 10^{-9}$	$-5.851 \cdot 10^{-7}$
cee	0.06455	0.06455	0	0.5269	0.5269	0
cle	0.09465	0.09465	0	0.7778	0.7778	0
cll	0.213	0.213	0	1.549	1.549	0
cll1	0.07886	0.07886	0	0.5714	0.5714	0
sm	0	0	0	0.0213	0.0213	0

#### **1.68** $e^+e^- \to e^+e^-$

		interfere	ence		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
cHDD	-0.6773	-0.6773	0	0.04005	0.04005	0		
cHWB	-2.637	-2.637	0	0.3168	0.3168	0		
сНе	0.002254	0.002254	0	$8.497 \cdot 10^{-5}$	$8.497 \cdot 10^{-5}$	0		
cHl1	0.02876	0.02876	0	0.004197	0.004197	0		
cH13	-0.08546	-0.08546	0	0.006217	0.006217	0		
ceBIm	$-7.578 \cdot 10^{-28}$	$-6.701 \cdot 10^{-28}$	0.1158	$9.531 \cdot 10^{-12}$	$9.531 \cdot 10^{-12}$	$-3.21 \cdot 10^{-6}$		
ceBRe	$-5.361 \cdot 10^{-12}$	$-5.361 \cdot 10^{-12}$	$-1.604 \cdot 10^{-6}$	$9.531 \cdot 10^{-12}$	$9.531 \cdot 10^{-12}$	$-3.21 \cdot 10^{-6}$		
$\mathtt{ceHIm}$	$-1.825 \cdot 10^{-30}$	$-2.634 \cdot 10^{-30}$	-0.4437	$5.428 \cdot 10^{-25}$	$5.428 \cdot 10^{-25}$	$-3.224 \cdot 10^{-6}$		
ceHRe	$7.49 \cdot 10^{-13}$	$7.49 \cdot 10^{-13}$	$-1.615 \cdot 10^{-6}$	$7.167 \cdot 10^{-25}$	$7.167 \cdot 10^{-25}$	$-3.209 \cdot 10^{-6}$		
ceWIm	$-6.456 \cdot 10^{-28}$	$-6.643 \cdot 10^{-28}$	-0.02887	$6.031 \cdot 10^{-12}$	$6.031 \cdot 10^{-12}$	$-3.217 \cdot 10^{-6}$		
ceWRe	$-2.502 \cdot 10^{-13}$	$-2.502 \cdot 10^{-13}$	$-1.599 \cdot 10^{-6}$	$8.985 \cdot 10^{-15}$	$8.985 \cdot 10^{-15}$	$-3.217 \cdot 10^{-6}$		
cee	$-3.344 \cdot 10^{-8}$	$-3.344 \cdot 10^{-8}$	0	0.000407	0.000407	0		
cle	-1.049	-1.049	0	2.11	2.11	0		

cll	-8.771	-8.771	0	13.21	13.21	0
cll1	-2.024	-2.024	0	9.248	9.248	0
sm	0	0	0	0.01518	0.01518	0

## **1.69** $gg \rightarrow gg$

		interfere	ence	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cG	$-3.846 \cdot 10^{-9}$	$-3.846 \cdot 10^{-9}$	$2.86 \cdot 10^{-7}$	116.8	116.8	0
cGtil	$-3.526 \cdot 10^{-16}$	$-3.586 \cdot 10^{-16}$	-0.01693	90.45	90.45	0
cHGtil	$2.471 \cdot 10^{-18}$	$2.471 \cdot 10^{-18}$	0	$4.359 \cdot 10^{-34}$	$4.359 \cdot 10^{-34}$	0
sm	0	0	0	157.6	157.6	0

#### $\textbf{1.70} \quad gg \to ggg$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сG	-0.001078	-0.001078	0	0.009278	0.009278	0	
cGtil	-0.02182	-0.02182	0	0.04787	0.04787	0	
cHGtil	$2.799 \cdot 10^{-13}$	$2.799 \cdot 10^{-13}$	0	$8.403 \cdot 10^{-25}$	$8.403 \cdot 10^{-25}$	0	
sm	0	0	0	0.01527	0.01527	0	

## 1.71 $gg \rightarrow t\bar{t}$

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
сG	-0.08595	-0.08595	0	1.845	1.845	0
cGtil	$5.249 \cdot 10^{-17}$	$5.249 \cdot 10^{-17}$	0	0.5258	0.5258	0

cHG	-0.03997	-0.03997	0	0.04069	0.04069	0
cHGtil	$2.309 \cdot 10^{-17}$	$2.309 \cdot 10^{-17}$	0	0.04069	0.04069	0
$\mathtt{ctGIm}$	$5.079 \cdot 10^{-18}$	$5.079 \cdot 10^{-18}$	0	0.09006	0.09006	0
ctGRe	-0.309	-0.309	0	0.1033	0.1033	0
sm	0	0	0	1.112	1.112	0

# 1.72 $gg \rightarrow u\bar{u}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
сG	$-1.803 \cdot 10^{-11}$	$-1.803 \cdot 10^{-11}$	0	2.496	2.496	0	
cGtil	$-1.679 \cdot 10^{-27}$	$-1.679 \cdot 10^{-27}$	0	1.418	1.418	0	
cHG	$-7.279 \cdot 10^{-12}$	$-7.279 \cdot 10^{-12}$	0	$7.223 \cdot 10^{-12}$	$7.223 \cdot 10^{-12}$	0	
cHGtil	$1.831 \cdot 10^{-28}$	$1.831 \cdot 10^{-28}$	0	$7.223 \cdot 10^{-12}$	$7.223 \cdot 10^{-12}$	0	
cuGIm	$7.316 \cdot 10^{-27}$	$6.309 \cdot 10^{-27}$	0.1376	$1.579 \cdot 10^{-11}$	$1.579 \cdot 10^{-11}$	$-1.456 \cdot 10^{-6}$	
cuGRe	$-1.312 \cdot 10^{-10}$	$-1.312 \cdot 10^{-10}$	$-6.858 \cdot 10^{-7}$	$1.579 \cdot 10^{-11}$	$1.579 \cdot 10^{-11}$	$-1.456 \cdot 10^{-6}$	
sm	0	0	0	3.827	3.827	0	

#### 1.73 $s\bar{s} \rightarrow \nu_{\tau}\bar{\nu}_{\tau}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	$-7.797 \cdot 10^{-5}$	$-7.797 \cdot 10^{-5}$	0	$5.254 \cdot 10^{-7}$	$5.254 \cdot 10^{-7}$	0	
cHWB	$7.121 \cdot 10^{-5}$	$7.121 \cdot 10^{-5}$	0	$9.748 \cdot 10^{-7}$	$9.748 \cdot 10^{-7}$	0	
cHd	$-8.485 \cdot 10^{-5}$	$-8.485 \cdot 10^{-5}$	0	$1.731 \cdot 10^{-5}$	$1.731 \cdot 10^{-5}$	0	
cHj1	0.0002714	0.0002714	0	$9.661 \cdot 10^{-6}$	$9.661 \cdot 10^{-6}$	0	
сНј3	0.000287	0.000287	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0	
cHl1	$-1.75\cdot10^{-5}$	$-1.75 \cdot 10^{-5}$	0	$5.303 \cdot 10^{-7}$	$5.303 \cdot 10^{-7}$	0	
cH13	-0.0003674	-0.0003674	0	$1.114 \cdot 10^{-5}$	$1.114 \cdot 10^{-5}$	0	

cdBIm	$-3.992 \cdot 10^{-27}$	$-3.992 \cdot 10^{-27}$	0	$9.754 \cdot 10^{-11}$	$9.754 \cdot 10^{-11}$	$6.356 \cdot 10^{-7}$
cdBRe	$-3.714 \cdot 10^{-10}$	$-3.714 \cdot 10^{-10}$	$3.231 \cdot 10^{-7}$	$1.108 \cdot 10^{-10}$	$1.108 \cdot 10^{-10}$	$6.319 \cdot 10^{-7}$
$\mathtt{cdWIm}$	$5.135 \cdot 10^{-25}$	$5.135 \cdot 10^{-25}$	$2.727 \cdot 10^{-6}$	$5.607 \cdot 10^{-10}$	$5.607 \cdot 10^{-10}$	$6.42 \cdot 10^{-7}$
cdWRe	$-4.684 \cdot 10^{-10}$	$-4.684 \cdot 10^{-10}$	$3.202 \cdot 10^{-7}$	$6.026 \cdot 10^{-10}$	$6.026 \cdot 10^{-10}$	$6.306 \cdot 10^{-7}$
cld	0.0004999	0.0004999	0	0.01216	0.01216	0
clj1	-0.00155	-0.00155	0	0.006583	0.006583	0
clj3	0.02776	0.02776	0	0.1179	0.1179	0
cll1	0.0003674	0.0003674	0	$1.114 \cdot 10^{-5}$	$1.114 \cdot 10^{-5}$	0
sm	0	0	0	0.0001533	0.0001533	0

#### 1.74 $s\bar{s} \rightarrow s\bar{s}$

		interfere	ence		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
cHDD	0.005101	0.005101	0	$1.751 \cdot 10^{-5}$	$1.751 \cdot 10^{-5}$	0		
cHWB	0.2142	0.2142	0	0.01191	0.01191	0		
cHd	0.000441	0.000441	0	0.0002577	0.0002577	0		
cHj1	0.953	0.953	0	0.1263	0.1263	0		
сНјЗ	-0.0589	-0.0589	0	0.001558	0.001558	0		
cH13	0.01221	0.01221	0	0.0001112	0.0001112	0		
$\mathtt{cdBIm}$	$1.758 \cdot 10^{-23}$	$1.751 \cdot 10^{-23}$	0.00389	$4.972 \cdot 10^{-9}$	$4.972 \cdot 10^{-9}$	$6.235 \cdot 10^{-7}$		
cdBRe	$2.861 \cdot 10^{-9}$	$2.861 \cdot 10^{-9}$	$3.146 \cdot 10^{-7}$	$3.128 \cdot 10^{-9}$	$3.128 \cdot 10^{-9}$	$6.394 \cdot 10^{-7}$		
$\mathtt{cdGIm}$	$9.4 \cdot 10^{-24}$	$1.372 \cdot 10^{-23}$	-0.46	$6.854 \cdot 10^{-8}$	$6.854 \cdot 10^{-8}$	$6.274 \cdot 10^{-7}$		
cdGRe	$-1.845 \cdot 10^{-7}$	$-1.845 \cdot 10^{-7}$	$3.251 \cdot 10^{-7}$	$1.404 \cdot 10^{-8}$	$1.404 \cdot 10^{-8}$	$6.411 \cdot 10^{-7}$		
$\mathtt{cdHIm}$	$-2.204 \cdot 10^{-25}$	$5.244 \cdot 10^{-25}$	3.379	$3.891 \cdot 10^{-16}$	$3.891 \cdot 10^{-16}$	$6.168 \cdot 10^{-7}$		
cdHRe	$5.441 \cdot 10^{-8}$	$5.441 \cdot 10^{-8}$	$3.125 \cdot 10^{-7}$	$6.9 \cdot 10^{-16}$	$6.9 \cdot 10^{-16}$	$6.377 \cdot 10^{-7}$		
$\mathtt{cdWIm}$	$-1.38 \cdot 10^{-23}$	$-1.384 \cdot 10^{-23}$	-0.003245	$5.19 \cdot 10^{-8}$	$5.19 \cdot 10^{-8}$	$6.165 \cdot 10^{-7}$		
cdWRe	$1.233 \cdot 10^{-7}$	$1.233 \cdot 10^{-7}$	$3.245 \cdot 10^{-7}$	$6.162 \cdot 10^{-8}$	$6.162 \cdot 10^{-8}$	$6.329 \cdot 10^{-7}$		
cdd1	-0.887	-0.887	0	3.046	3.046	0		

cdd8	-2.094	-2.094	$-9.551 \cdot 10^{-8}$	0.7372	0.7372	$-2.035 \cdot 10^{-7}$
cjd1	0.09803	0.09803	0	2.125	2.125	0
cjd8	-3.442	-3.442	0	0.5034	0.5034	0
cjj11	-2.258	-2.258	0	4.312	4.312	0
cjj18	-0.5877	-0.5877	$-1.702 \cdot 10^{-8}$	0.4305	0.4305	$-2.323 \cdot 10^{-8}$
cjj31	-1.049	-1.049	0	3.046	3.046	0
cjj38	-0.001765	-0.001765	$-5.666 \cdot 10^{-8}$	0.01548	0.01548	$-1.938 \cdot 10^{-7}$
cll1	-0.006106	-0.006106	0	$2.779 \cdot 10^{-5}$	$2.779 \cdot 10^{-5}$	0
sm	0	0	0	4.607	4.607	0

# 1.75 $t\bar{t} ightarrow u_{\mu} \bar{ u}_{\mu}$

		interfere		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$
cHDD	$-4.428 \cdot 10^{-5}$	$-4.428 \cdot 10^{-5}$	0	$4.763 \cdot 10^{-6}$	$4.763 \cdot 10^{-6}$	0
cHQ1	-0.0004714	-0.0004714	0	$2.063 \cdot 10^{-5}$	$2.063 \cdot 10^{-5}$	0
cHQ3	$9.013 \cdot 10^{-6}$	$9.013 \cdot 10^{-6}$	0	$6.844 \cdot 10^{-7}$	$6.844 \cdot 10^{-7}$	0
cHWB	$-8.005 \cdot 10^{-5}$	$-8.005 \cdot 10^{-5}$	0	$5.965 \cdot 10^{-6}$	$5.965 \cdot 10^{-6}$	0
cHl1	$-5.2\cdot10^{-5}$	$-5.2 \cdot 10^{-5}$	0	$1.576 \cdot 10^{-6}$	$1.576 \cdot 10^{-6}$	0
cH13	-0.0003271	-0.0003271	0	$9.915 \cdot 10^{-6}$	$9.915 \cdot 10^{-6}$	0
cHt	$6.291 \cdot 10^{-5}$	$6.291 \cdot 10^{-5}$	0	$8.072 \cdot 10^{-6}$	$8.072 \cdot 10^{-6}$	0
cQl1	0.02482	0.02482	0	0.1319	0.1319	0
cQ13	0.003833	0.003833	0	0.02392	0.02392	0
cll1	0.0003271	0.0003271	0	$9.915 \cdot 10^{-6}$	$9.915 \cdot 10^{-6}$	0
$\mathtt{ctBIm}$	$1.35 \cdot 10^{-20}$	$1.35 \cdot 10^{-20}$	0	$2.318 \cdot 10^{-5}$	$2.318 \cdot 10^{-5}$	0
ctBRe	0.0002679	0.0002679	0	0.0007281	0.0007281	0
$\mathtt{ctWIm}$	$-1.086 \cdot 10^{-18}$	$-1.086 \cdot 10^{-18}$	0	0.001881	0.001881	0
ctWRe	-0.0005002	-0.0005002	0	0.002539	0.002539	0
ctl	-0.01397	-0.01397	0	0.1935	0.1935	0

 ${\tt sm} \qquad \qquad 0 \qquad \qquad 0 \qquad \qquad 0.002426 \qquad 0.002426 \qquad \qquad 0$ 

## 1.76 $t\bar{t} \rightarrow \tau^+\tau^-$

		interfere	ence		square	
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
cHDD	-0.000386	-0.000386	0	$2.23 \cdot 10^{-5}$	$2.23 \cdot 10^{-5}$	0
cHQ1	$-5.424 \cdot 10^{-5}$	$-5.424 \cdot 10^{-5}$	0	$3.051 \cdot 10^{-6}$	$3.051 \cdot 10^{-6}$	0
cHQ3	$-1.056 \cdot 10^{-5}$	$-1.056 \cdot 10^{-5}$	0	$3.337 \cdot 10^{-6}$	$3.337 \cdot 10^{-6}$	0
cHWB	-0.0004818	-0.0004818	0	$8.058 \cdot 10^{-5}$	$8.058 \cdot 10^{-5}$	0
сНе	$-3.684 \cdot 10^{-5}$	$-3.684 \cdot 10^{-5}$	0	$2.325 \cdot 10^{-6}$	$2.325 \cdot 10^{-6}$	0
cHl1	0.0003045	0.0003045	0	$7.564 \cdot 10^{-6}$	$7.564 \cdot 10^{-6}$	0
cH13	-0.0003515	-0.0003515	0	$1.988 \cdot 10^{-5}$	$1.988 \cdot 10^{-5}$	0
cHt	0.0001655	0.0001655	0	$4.114 \cdot 10^{-6}$	$4.114 \cdot 10^{-6}$	0
cQe	-0.007915	-0.007915	0	0.1571	0.1571	0
cQl1	-0.05733	-0.05733	0	0.2411	0.2411	0
cQ13	0.004869	0.004869	0	0.01733	0.01733	0
ceBIm	$-4.815 \cdot 10^{-22}$	$-4.528 \cdot 10^{-22}$	0.0597	$8.935 \cdot 10^{-8}$	$8.935 \cdot 10^{-8}$	$6.1 \cdot 10^{-6}$
ceBRe	$4.693 \cdot 10^{-7}$	$4.693 \cdot 10^{-7}$	$3.047 \cdot 10^{-6}$	$8.935 \cdot 10^{-8}$	$8.935 \cdot 10^{-8}$	$6.099 \cdot 10^{-6}$
ceHIm	$5.009 \cdot 10^{-24}$	$2.114 \cdot 10^{-24}$	0.578	$3.052 \cdot 10^{-8}$	$3.052 \cdot 10^{-8}$	$6.095 \cdot 10^{-6}$
ceHRe	$-1.001 \cdot 10^{-6}$	$-1.001 \cdot 10^{-6}$	$3.097 \cdot 10^{-6}$	$3.052 \cdot 10^{-8}$	$3.052 \cdot 10^{-8}$	$6.095 \cdot 10^{-6}$
ceWIm	$-8.269 \cdot 10^{-22}$	$-8.086 \cdot 10^{-22}$	0.02222	$1.603 \cdot 10^{-7}$	$1.603 \cdot 10^{-7}$	$6.113 \cdot 10^{-6}$
ceWRe	$-6.861 \cdot 10^{-8}$	$-6.861 \cdot 10^{-8}$	$3.061 \cdot 10^{-6}$	$2.122 \cdot 10^{-7}$	$2.122 \cdot 10^{-7}$	$6.079 \cdot 10^{-6}$
cleQt1Im	$4.7 \cdot 10^{-23}$	$-9.407 \cdot 10^{-23}$	3.001	$1.738 \cdot 10^{-5}$	$1.738 \cdot 10^{-5}$	$6.1 \cdot 10^{-6}$
cleQt1Re	$3.431 \cdot 10^{-5}$	$3.431 \cdot 10^{-5}$	$3.06 \cdot 10^{-6}$	$1.738 \cdot 10^{-5}$	$1.738 \cdot 10^{-5}$	$6.1 \cdot 10^{-6}$
cleQt3Im	$-2.89 \cdot 10^{-22}$	$4.662 \cdot 10^{-22}$	2.613	0.0002051	0.0002051	$6.094 \cdot 10^{-6}$
cleQt3Re	$-3.257 \cdot 10^{-5}$	$-3.257 \cdot 10^{-5}$	$3.07 \cdot 10^{-6}$	$3.491 \cdot 10^{-5}$	$3.491 \cdot 10^{-5}$	$6.102 \cdot 10^{-6}$
cll1	0.0002102	0.0002102	0	$6.372 \cdot 10^{-6}$	$6.372 \cdot 10^{-6}$	0
ctBIm	$1.631 \cdot 10^{-21}$	$1.631 \cdot 10^{-21}$	0	0.0008119	0.0008119	0
ctBRe	-0.003761	-0.003761	0	0.001541	0.001541	0

$\mathtt{ctHIm}$	$5.23 \cdot 10^{-23}$	$5.23 \cdot 10^{-23}$	0	$3.492 \cdot 10^{-8}$	$3.492 \cdot 10^{-8}$	0
ctHRe	$-1.003 \cdot 10^{-6}$	$-1.003 \cdot 10^{-6}$	0	$3.099 \cdot 10^{-8}$	$3.099 \cdot 10^{-8}$	0
$\mathtt{ctWIm}$	$-2.106 \cdot 10^{-20}$ -	$-2.106 \cdot 10^{-20}$	0	0.001771	0.001771	0
ctWRe	-0.002962	-0.002962	0	0.001083	0.001083	0
cte	-0.007633	-0.007633	0	0.0443	0.0443	0
ctl	-0.01972	-0.01972	0	0.2143	0.2143	0
sm	0	0	0	0.00135	0.00135	0

#### 1.77 $t\bar{t} \rightarrow c\bar{c}$

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
cHDD	-0.0001729	-0.0001729	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0	
cHQ1	-0.0005814	-0.0005814	0	$1.66 \cdot 10^{-5}$	$1.66 \cdot 10^{-5}$	0	
cHQ3	0.0008245	0.0008245	0	$2.25 \cdot 10^{-5}$	$2.25 \cdot 10^{-5}$	0	
cHWB	-0.00139	-0.00139	0	0.0001159	0.0001159	0	
cHj1	-0.0008162	-0.0008162	0	$2.162 \cdot 10^{-5}$	$2.162 \cdot 10^{-5}$	0	
сНј3	0.0003066	0.0003066	0	$9.796 \cdot 10^{-6}$	$9.796 \cdot 10^{-6}$	0	
cH13	-0.001721	-0.001721	0	0.0001043	0.0001043	0	
cHt	0.0001828	0.0001828	0	$5.666 \cdot 10^{-6}$	$5.666 \cdot 10^{-6}$	0	
cHu	$1.114 \cdot 10^{-5}$	$1.114 \cdot 10^{-5}$	0	$1.026 \cdot 10^{-5}$	$1.026 \cdot 10^{-5}$	0	
cQj11	0.02149	0.02149	0	0.0936	0.0936	0	
cQj18	0.0924	0.0924	$1.082 \cdot 10^{-8}$	0.02455	0.02455	0	
cQj31	0.1416	0.1416	0	0.6369	0.6369	0	
cQj38	0.1889	0.1889	0	0.05712	0.05712	0	
cQu1	0.01055	0.01055	0	0.2734	0.2734	0	
cQu8	0.34	0.34	0	0.1081	0.1081	0	
cjQtu1Im	$2.171 \cdot 10^{-21}$	$1.24 \cdot 10^{-21}$	0.4289	0.0001065	0.0001065	$2.817 \cdot 10^{-7}$	
cjQtu1Re	$3.008 \cdot 10^{-5}$	$3.008 \cdot 10^{-5}$	$1.33 \cdot 10^{-7}$	0.0001065	0.0001065	$2.817 \cdot 10^{-7}$	

cjQtu8Im	$-6.177 \cdot 10^{-22}$	$-1.548 \cdot 10^{-23}$	0.9749	$2.367 \cdot 10^{-5}$	$2.367 \cdot 10^{-5}$	$2.957 \cdot 10^{-7}$
cjQtu8Re	$4.597 \cdot 10^{-5}$	$4.597 \cdot 10^{-5}$	$1.305 \cdot 10^{-7}$	$2.367 \cdot 10^{-5}$	$2.367 \cdot 10^{-5}$	$2.957 \cdot 10^{-7}$
cll1	0.0008606	0.0008606	0	$2.609 \cdot 10^{-5}$	$2.609 \cdot 10^{-5}$	0
ctBIm	$2.722 \cdot 10^{-18}$	$2.722 \cdot 10^{-18}$	$-4.335 \cdot 10^{-6}$	0.001855	0.001855	0
ctBRe	-0.004253	-0.004253	0	0.002036	0.002036	0
ctGIm	$8.387 \cdot 10^{-25}$	$1.025 \cdot 10^{-24}$	-0.2226	0.02492	0.02492	0
ctGRe	-0.1986	-0.1986	0	0.04178	0.04178	0
ctHIm	$1.769 \cdot 10^{-24}$	$9.646 \cdot 10^{-25}$	0.4547	$5.351 \cdot 10^{-8}$	$5.351 \cdot 10^{-8}$	0
ctHRe	$-1.547 \cdot 10^{-6}$	$-1.547 \cdot 10^{-6}$	0	$4.749 \cdot 10^{-8}$	$4.749 \cdot 10^{-8}$	0
ctWIm	$1.159 \cdot 10^{-18}$	$1.159 \cdot 10^{-18}$	$7.621 \cdot 10^{-5}$	0.005282	0.005282	0
ctWRe	-0.008005	-0.008005	0	0.003798	0.003798	0
ctj1	0.008036	0.008036	0	0.05374	0.05374	0
ctj8	0.03043	0.03043	0	0.003637	0.003637	0
ctu1	0.06985	0.06985	0	0.6342	0.6342	0
ctu8	0.439	0.439	0	0.1415	0.1415	0
cuBIm	$2.693 \cdot 10^{-21}$	$2.657 \cdot 10^{-21}$	0.01332	$1.593 \cdot 10^{-7}$	$1.593 \cdot 10^{-7}$	$2.512 \cdot 10^{-7}$
cuBRe	$-1.549 \cdot 10^{-7}$	$-1.549 \cdot 10^{-7}$	$1.291 \cdot 10^{-7}$	$1.918 \cdot 10^{-7}$	$1.918 \cdot 10^{-7}$	$3.128 \cdot 10^{-7}$
cuGIm	$-7.006 \cdot 10^{-22}$	$-6.914 \cdot 10^{-22}$	0.01306	$2.252 \cdot 10^{-6}$	$2.252 \cdot 10^{-6}$	$3.108 \cdot 10^{-7}$
cuGRe	$-1.159 \cdot 10^{-5}$	$-1.159 \cdot 10^{-5}$	$8.631 \cdot 10^{-8}$	$2.252 \cdot 10^{-6}$	$2.252 \cdot 10^{-6}$	$3.108 \cdot 10^{-7}$
cuHIm	$1.385 \cdot 10^{-22}$	$7.119 \cdot 10^{-23}$	0.4859	$4.676 \cdot 10^{-8}$	$4.676 \cdot 10^{-8}$	$2.78 \cdot 10^{-7}$
cuHRe	$-1.553 \cdot 10^{-6}$	$-1.553 \cdot 10^{-6}$	$1.288 \cdot 10^{-7}$	$4.676 \cdot 10^{-8}$	$4.676 \cdot 10^{-8}$	$2.78 \cdot 10^{-7}$
cuWIm	$-3.382 \cdot 10^{-22}$	$-3.515 \cdot 10^{-22}$	-0.03929	$3.13 \cdot 10^{-7}$	$3.13 \cdot 10^{-7}$	$2.556 \cdot 10^{-7}$
cuWRe	$-2.628 \cdot 10^{-7}$	$-2.628 \cdot 10^{-7}$	$1.141 \cdot 10^{-7}$	$3.48 \cdot 10^{-7}$	$3.48 \cdot 10^{-7}$	$2.873 \cdot 10^{-7}$
sm	0	0	0	0.74	0.74	0

#### 1.78 $t\bar{t} \rightarrow d\bar{d}$

```
-6.031 \cdot 10^{-5}
                                             -6.031 \cdot 10^{-5}
                                                                                                        9.506 \cdot 10^{-6}
                                                                                                                             9.506 \cdot 10^{-6}
cHDD
                                                                             0
                                                                                                                                                           0
                                              2.128 \cdot 10^{-5}
                       2.128 \cdot 10^{-5}
                                                                                                         1.607 \cdot 10^{-6}
                                                                                                                             1.607 \cdot 10^{-6}
cHQ1
                                                                             0
                                                                                                                                                           0
                                             -1.853 \cdot 10^{-5}
                      -1.853 \cdot 10^{-5}
                                                                             0
                                                                                                         1.639 \cdot 10^{-6}
                                                                                                                             1.639 \cdot 10^{-6}
                                                                                                                                                           0
cHQ3
                      -2.806 \cdot 10^{-5}
                                             -2.806 \cdot 10^{-5}
                                                                             0
                                                                                                         1.751 \cdot 10^{-5}
                                                                                                                             1.751 \cdot 10^{-5}
                                                                                                                                                           0
cHWB
cHd
                       2.298 \cdot 10^{-5}
                                              2.298 \cdot 10^{-5}
                                                                             0
                                                                                                         1.484 \cdot 10^{-5}
                                                                                                                             1.484 \cdot 10^{-5}
                                                                                                                                                           0
                        4.91 \cdot 10^{-5}
                                               4.91 \cdot 10^{-5}
                                                                             0
                                                                                                        5.099 \cdot 10^{-6}
                                                                                                                             5.099 \cdot 10^{-6}
                                                                                                                                                           0
cHj1
                                               0.0001446
                                                                                                        5.901 \cdot 10^{-6}
                                                                                                                             5.901 \cdot 10^{-6}
                        0.0001446
                                                                             0
                                                                                                                                                           0
cHj3
                      -4.301 \cdot 10^{-5}
                                             -4.301 \cdot 10^{-5}
                                                                                                         2.607 \cdot 10^{-6}
                                                                                                                             2.607 \cdot 10^{-6}
                                                                                                                                                           0
cH13
                                                                             0
                       9.022 \cdot 10^{-5}
                                              9.022 \cdot 10^{-5}
                                                                                                         3.372 \cdot 10^{-5}
                                                                                                                             3.372 \cdot 10^{-5}
                                                                                                                                                           0
                                                                             0
cHt
                                                                             0
                                                                                                            0.6601
                                                                                                                                 0.6601
                         -0.01043
                                                -0.01043
                                                                                                                                                           0
cQd1
                          0.1398
                                                 0.1398
                                                                             0
                                                                                                           0.04054
                                                                                                                                0.04054
                                                                                                                                                           0
cQd8
cQj11
                         -0.1176
                                                -0.1176
                                                                             0
                                                                                                            0.5701
                                                                                                                                 0.5701
                                                                                                                                                           0
                                                                                                                                 0.1434
cQj18
                          0.4446
                                                 0.4446
                                                                             0
                                                                                                            0.1434
                                                                                                                                                           0
cQj31
                       -0.0001157
                                              -0.0001157
                                                                             0
                                                                                                           0.00343
                                                                                                                                0.00343
                                                                                                                                                           0
                        -0.08998
cQj38
                                                -0.08998
                                                                             0
                                                                                                           0.02373
                                                                                                                                0.02373
                                                                                                                                                           0
                      1.206 \cdot 10^{-26}
                                             -9.906 \cdot 10^{-27}
                                                                          1.821
                                                                                                        3.601 \cdot 10^{-10}
                                                                                                                             3.601 \cdot 10^{-10}
                                                                                                                                                   -1.194 \cdot 10^{-6}
cQtjd1Im
                     -7.079 \cdot 10^{-10}
                                             -7.079 \cdot 10^{-10}
                                                                     -5.792 \cdot 10^{-7}
                                                                                                        3.601 \cdot 10^{-10}
                                                                                                                            3.601 \cdot 10^{-10}
                                                                                                                                                   -1.166 \cdot 10^{-6}
cQtjd1Re
                     -4.657 \cdot 10^{-27}
                                             -3.044 \cdot 10^{-27}
                                                                         0.3464
                                                                                                        8.001 \cdot 10^{-11}
                                                                                                                             8.001 \cdot 10^{-11}
                                                                                                                                                   -1.175 \cdot 10^{-6}
cQtjd8Im
                      2.601 \cdot 10^{-11}
cQtjd8Re
                                              2.601 \cdot 10^{-11}
                                                                     -5.767 \cdot 10^{-7}
                                                                                                        8.001 \cdot 10^{-11}
                                                                                                                            8.001 \cdot 10^{-11}
                                                                                                                                                   -1.175 \cdot 10^{-6}
                                             -1.309 \cdot 10^{-26}
                     -1.264 \cdot 10^{-26}
                                                                        -0.03611
                                                                                                        1.755 \cdot 10^{-12}
                                                                                                                            1.755 \cdot 10^{-12}
                                                                                                                                                   -1.197 \cdot 10^{-6}
cdBIm
                      1.173 \cdot 10^{-11}
                                             1.173 \cdot 10^{-11}
                                                                     -5.967 \cdot 10^{-7}
                                                                                                        3.536 \cdot 10^{-13}
                                                                                                                            3.536 \cdot 10^{-13}
                                                                                                                                                   -1.159 \cdot 10^{-6}
cdBRe
                                             -5.376 \cdot 10^{-27}
                                                                                                                                                  -1.172 \cdot 10^{-6}
                     -5.276 \cdot 10^{-27}
                                                                                                        4.949 \cdot 10^{-12}
                                                                                                                            4.949 \cdot 10^{-12}
cdGIm
                                                                       -0.01901
                     -1.567 \cdot 10^{-10}
                                             -1.567 \cdot 10^{-10}
                                                                     -6.383 \cdot 10^{-7}
                                                                                                        3.044 \cdot 10^{-11}
                                                                                                                            3.044 \cdot 10^{-11}
                                                                                                                                                   -1.183 \cdot 10^{-6}
cdGRe
                      7.806 \cdot 10^{-28}
                                              6.095 \cdot 10^{-28}
                                                                         0.2192
                                                                                                        6.323 \cdot 10^{-13}
                                                                                                                            6.323 \cdot 10^{-13}
                                                                                                                                                   -1.17 \cdot 10^{-6}
cdHIm
cdHRe
                     -2.085 \cdot 10^{-11}
                                             -2.085 \cdot 10^{-11}
                                                                     -5.756 \cdot 10^{-7}
                                                                                                        6.323 \cdot 10^{-13}
                                                                                                                            6.323 \cdot 10^{-13}
                                                                                                                                                   -1.17 \cdot 10^{-6}
                                              3.69 \cdot 10^{-26}
                      3.719 \cdot 10^{-26}
                                                                                                        4.041 \cdot 10^{-12}
                                                                                                                            4.041 \cdot 10^{-12}
                                                                                                                                                   -1.163 \cdot 10^{-6}
cdWIm
                                                                        0.007732
                      1.265 \cdot 10^{-12}
                                              1.265 \cdot 10^{-12}
                                                                     -5.533 \cdot 10^{-7}
                                                                                                        3.957 \cdot 10^{-12}
                                                                                                                            3.957 \cdot 10^{-12}
                                                                                                                                                   -1.188 \cdot 10^{-6}
cdWRe
                      -8.22 \cdot 10^{-28}
                                             -2.719 \cdot 10^{-28}
                                                                                                        1.845 \cdot 10^{-11}
                                                                                                                                                   -1.192 \cdot 10^{-6}
                                                                         0.6692
                                                                                                                            1.845 \cdot 10^{-11}
cjtQd1Im
                                                                      -6.03 \cdot 10^{-7}
                     -1.161 \cdot 10^{-10}
                                             -1.161 \cdot 10^{-10}
                                                                                                        3.394 \cdot 10^{-10}
                                                                                                                            3.394 \cdot 10^{-10}
                                                                                                                                                   -1.149 \cdot 10^{-6}
cjtQd1Re
```

cjtQd8Im	$-1.918 \cdot 10^{-27}$	$-1.292 \cdot 10^{-27}$	0.3262	$7.948 \cdot 10^{-12}$	$7.948 \cdot 10^{-12}$	$-1.17 \cdot 10^{-6}$
cjtQd8Re	$-1.448 \cdot 10^{-10}$	$-1.448 \cdot 10^{-10}$	$-6.214 \cdot 10^{-7}$	$1.458 \cdot 10^{-11}$	$1.458 \cdot 10^{-11}$	$-1.166 \cdot 10^{-6}$
cll1	$2.15 \cdot 10^{-5}$	$2.15 \cdot 10^{-5}$	0	$6.519 \cdot 10^{-7}$	$6.519 \cdot 10^{-7}$	0
ctBIm	$-1.856 \cdot 10^{-18}$	$-1.856 \cdot 10^{-18}$	$-6.358 \cdot 10^{-6}$	0.0009481	0.0009481	0
ctBRe	-0.0001566	-0.0001566	0	0.0008601	0.0008601	0
$\mathtt{ctGIm}$	$-6.798 \cdot 10^{-29}$	$7.353 \cdot 10^{-24}$	$1.082\cdot 10^5$	0.03743	0.03743	0
ctGRe	-0.1986	-0.1986	0	0.03382	0.03382	0
$\mathtt{ctHIm}$	$-1.503 \cdot 10^{-27}$	$-1.503 \cdot 10^{-27}$	0	$7.236 \cdot 10^{-13}$	$7.236 \cdot 10^{-13}$	0
ctHRe	$-2.094 \cdot 10^{-11}$	$-2.094 \cdot 10^{-11}$	0	$6.421 \cdot 10^{-13}$	$6.421 \cdot 10^{-13}$	0
ctWIm	$-2.933 \cdot 10^{-18}$	$-2.933 \cdot 10^{-18}$	0	0.003988	0.003988	0
ctWRe	-0.0008936	-0.0008936	0	0.005413	0.005413	0
ctd1	-0.03144	-0.03144	0	0.5701	0.5701	0
ctd8	0.1129	0.1129	0	0.03146	0.03146	0
ctj1	0.01998	0.01998	0	0.9434	0.9434	0
ctj8	0.4543	0.4543	0	0.1467	0.1467	0
sm	0	0	0	0.5807	0.5807	0

#### 1.79 $t\bar{t} \rightarrow s\bar{s}$

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	$-3.365 \cdot 10^{-5}$	$-3.365 \cdot 10^{-5}$	0	$4.057 \cdot 10^{-6}$	$4.057 \cdot 10^{-6}$	0	
cHQ1	-0.0003057	-0.0003057	0	$1.146 \cdot 10^{-5}$	$1.146 \cdot 10^{-5}$	0	
cHQ3	0.001163	0.001163	0	$4.029 \cdot 10^{-5}$	$4.029 \cdot 10^{-5}$	0	
cHWB	-0.0001501	-0.0001501	0	$3.221 \cdot 10^{-5}$	$3.221 \cdot 10^{-5}$	0	
cHd	$-5.989 \cdot 10^{-6}$	$-5.989 \cdot 10^{-6}$	0	$1.005 \cdot 10^{-5}$	$1.005 \cdot 10^{-5}$	0	
cHj1	0.0009483	0.0009483	0	$2.668 \cdot 10^{-5}$	$2.668 \cdot 10^{-5}$	0	
сНј3	0.0007042	0.0007042	0	$1.997 \cdot 10^{-5}$	$1.997 \cdot 10^{-5}$	0	
cH13	-0.0006017	-0.0006017	0	$3.648 \cdot 10^{-5}$	$3.648 \cdot 10^{-5}$	0	

cHt	$6.805 \cdot 10^{-5}$	$6.805 \cdot 10^{-5}$	0	$2.734 \cdot 10^{-5}$	$2.734 \cdot 10^{-5}$	0
cQd1	-0.008747	-0.008747	0	0.5337	0.5337	0
cQd8	0.154	0.154	0	0.04535	0.04535	0
cQj11	-0.1161	-0.1161	0	0.563	0.563	0
cQj18	0.1078	0.1078	0	0.02973	0.02973	0
cQj31	0.1633	0.1633	0	0.7899	0.7899	0
cQj38	-0.4067	-0.4067	0	0.1306	0.1306	0
cQtjd1Im	$-8.313 \cdot 10^{-26}$	$-6.043 \cdot 10^{-24}$	-71.69	$1.428 \cdot 10^{-7}$	$1.428 \cdot 10^{-7}$	$6.303 \cdot 10^{-7}$
cQtjd1Re	$-2.817 \cdot 10^{-7}$	$-2.817 \cdot 10^{-7}$	$3.195 \cdot 10^{-7}$	$1.428 \cdot 10^{-7}$	$1.428 \cdot 10^{-7}$	$6.303 \cdot 10^{-7}$
cQtjd8Im	$-6.723 \cdot 10^{-25}$	$-5.62 \cdot 10^{-25}$	0.1641	$3.173 \cdot 10^{-8}$	$3.173 \cdot 10^{-8}$	$6.303 \cdot 10^{-7}$
cQtjd8Re	$-8.451 \cdot 10^{-9}$	$-8.451 \cdot 10^{-9}$	$3.077 \cdot 10^{-7}$	$3.173 \cdot 10^{-8}$	$3.173 \cdot 10^{-8}$	$6.303 \cdot 10^{-7}$
$\mathtt{cdBIm}$	$4.003 \cdot 10^{-24}$	$4.042 \cdot 10^{-24}$	-0.009647	$9.397 \cdot 10^{-10}$	$9.397 \cdot 10^{-10}$	$6.278 \cdot 10^{-7}$
cdBRe	$8.789 \cdot 10^{-10}$	$8.789 \cdot 10^{-10}$	$3.072 \cdot 10^{-7}$	$1.018 \cdot 10^{-9}$	$1.018 \cdot 10^{-9}$	$6.875 \cdot 10^{-7}$
$\mathtt{cdGIm}$	$4.837 \cdot 10^{-25}$	$1.08 \cdot 10^{-24}$	-1.233	$1.196 \cdot 10^{-8}$	$1.196 \cdot 10^{-8}$	$6.688 \cdot 10^{-7}$
cdGRe	$-6.213 \cdot 10^{-8}$	$-6.213 \cdot 10^{-8}$	$3.219 \cdot 10^{-7}$	$9.551 \cdot 10^{-9}$	$9.551 \cdot 10^{-9}$	$6.282 \cdot 10^{-7}$
$\mathtt{cdHIm}$	$2.553 \cdot 10^{-26}$	$7.866 \cdot 10^{-26}$	-2.081	$2.507 \cdot 10^{-10}$	$2.507 \cdot 10^{-10}$	$6.381 \cdot 10^{-7}$
cdHRe	$-8.274 \cdot 10^{-9}$	$-8.274 \cdot 10^{-9}$	$3.142 \cdot 10^{-7}$	$2.507 \cdot 10^{-10}$	$2.507 \cdot 10^{-10}$	$6.381 \cdot 10^{-7}$
$\mathtt{cdWIm}$	$2.988 \cdot 10^{-23}$	$3.014 \cdot 10^{-23}$	-0.008639	$1.394 \cdot 10^{-9}$	$1.394 \cdot 10^{-9}$	$5.74 \cdot 10^{-7}$
cdWRe	$-3.544 \cdot 10^{-9}$	$-3.544 \cdot 10^{-9}$	$3.104 \cdot 10^{-7}$	$1.413 \cdot 10^{-9}$	$1.413 \cdot 10^{-9}$	$6.372 \cdot 10^{-7}$
cjtQd1Im	$2.419 \cdot 10^{-24}$	$9.401 \cdot 10^{-25}$	0.6114	$6.291 \cdot 10^{-8}$	$6.291 \cdot 10^{-8}$	$6.199 \cdot 10^{-7}$
cjtQd1Re	$1.5\cdot 10^{-8}$	$1.5 \cdot 10^{-8}$	$3.334 \cdot 10^{-7}$	$2.84 \cdot 10^{-9}$	$2.84 \cdot 10^{-9}$	$5.987 \cdot 10^{-7}$
cjtQd8Im	$4.726 \cdot 10^{-24}$	$-4.627 \cdot 10^{-24}$	1.979	$1.839 \cdot 10^{-8}$	$1.839 \cdot 10^{-8}$	$6.525 \cdot 10^{-7}$
cjtQd8Re	$-6.069 \cdot 10^{-8}$	$-6.069 \cdot 10^{-8}$	$3.131 \cdot 10^{-7}$	$6.47 \cdot 10^{-9}$	$6.47 \cdot 10^{-9}$	$6.337 \cdot 10^{-7}$
cll1	0.0003008	0.0003008	0	$9.119 \cdot 10^{-6}$	$9.119 \cdot 10^{-6}$	0
ctBIm	$-1.196 \cdot 10^{-18}$	$-1.196 \cdot 10^{-18}$	$-9.867 \cdot 10^{-6}$	0.0009636	0.0009636	0
ctBRe	$-6.576 \cdot 10^{-5}$	$-6.576 \cdot 10^{-5}$	0	0.001035	0.001035	0
$\mathtt{ctGIm}$	$-7.357 \cdot 10^{-25}$	$5.146 \cdot 10^{-24}$	7.995	0.03753	0.03753	0
ctGRe	-0.1986	-0.1986	0	0.04355	0.04355	0
ctHIm	$2.104 \cdot 10^{-25}$	$2.104 \cdot 10^{-25}$	0	$2.87 \cdot 10^{-10}$	$2.87 \cdot 10^{-10}$	0

ctHRe	$-8.306 \cdot 10^{-9}$	$-8.306 \cdot 10^{-9}$	0	$2.547 \cdot 10^{-10}$	$2.547 \cdot 10^{-10}$	0
$\mathtt{ctWIm}$	$8.016 \cdot 10^{-19}$	$8.016 \cdot 10^{-19}$	0	0.005586	0.005586	0
ctWRe	-0.001657	-0.001657	0	0.006515	0.006515	0
ctd1	-0.03105	-0.03105	0	0.563	0.563	0
ctd8	0.1926	0.1926	0	0.05835	0.05835	0
ctj1	-0.005649	-0.005649	0	0.0199	0.0199	0
ctj8	0.3711	0.3711	0	0.1186	0.1186	0
sm	0	0	0	0.5789	0.5789	0

# 1.80 $t\bar{t} \rightarrow t\bar{t}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	0.03033	0.03033	0	0.0008616	0.0008616	0	
cHQ1	0.04621	0.04621	0	0.008579	0.008579	0	
cHQ3	-0.1797	-0.1797	0	0.009408	0.009408	0	
cHWB	0.06002	0.06002	0	0.001729	0.001729	0	
cHl3	0.09906	0.09906	0	0.01418	0.01418	0	
cHt	-0.1209	-0.1209	0	0.0096	0.0096	0	
cQQ1	-465.9	-465.9	0	36.6	36.6	0	
cQQ8	-73.59	-73.59	$-1.359 \cdot 10^{-8}$	3.961	3.961	0	
cQt1	-0.5916	-0.5916	0	7.867	7.867	0	
cQt8	-1.522	-1.522	0	2.416	2.416	0	
cll1	-0.04953	-0.04953	0	0.003546	0.003546	0	
$\mathtt{ctBIm}$	$4.967 \cdot 10^{-17}$	$4.873 \cdot 10^{-17}$	0.01894	0.0195	0.0195	0	
ctBRe	0.2334	0.2334	0	0.1225	0.1225	0	
$\mathtt{ctGIm}$	$8.442 \cdot 10^{-18}$	$-1.864 \cdot 10^{-19}$	1.022	1.296	1.296	0	
ctGRe	-0.1481	-0.1481	0	0.3288	0.3288	0	
$\mathtt{ctHIm}$	$-2.585 \cdot 10^{-18}$	$-2.329 \cdot 10^{-18}$	0.09905	0.004982	0.004982	0	

ctHRe	0.04887	0.04887	0	0.008581	0.008581	0
ctWIm	$9.743 \cdot 10^{-17}$	$9.802 \cdot 10^{-17}$	-0.006062	0.07748	0.07748	0
ctWRe	0.2703	0.2703	0	0.2171	0.2171	0
ctt	-0.03771	-0.03771	0	1.273	1.273	0
sm	0	0	0	14.32	14.32	0

# 1.81 $u\bar{d} \rightarrow \mu^+ \nu_{\mu}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
сНј3	0.0006861	0.0006861	0	$2.08 \cdot 10^{-5}$	$2.08\cdot10^{-5}$	0	
cH13	-0.001731	-0.001731	0	$5.246 \cdot 10^{-5}$	$5.246 \cdot 10^{-5}$	0	
$\mathtt{cHudIm}$	$4.035 \cdot 10^{-39}$	$1.124 \cdot 10^{-39}$	0.7214	$3.859 \cdot 10^{-25}$	$3.859 \cdot 10^{-25}$	$-2.669 \cdot 10^{-6}$	
cHudRe	$-3.123 \cdot 10^{-24}$	$-3.123 \cdot 10^{-24}$	$-1.345 \cdot 10^{-6}$	$7.549 \cdot 10^{-25}$	$7.549 \cdot 10^{-25}$	$-2.663 \cdot 10^{-6}$	
$\mathtt{cdWIm}$	$2.457 \cdot 10^{-27}$	$2.529 \cdot 10^{-27}$	-0.02924	$2.996 \cdot 10^{-12}$	$2.996 \cdot 10^{-12}$	$-1.168 \cdot 10^{-6}$	
cdWRe	$-5.563 \cdot 10^{-13}$	$-5.563 \cdot 10^{-13}$	$-5.932 \cdot 10^{-7}$	$1.473 \cdot 10^{-12}$	$1.473 \cdot 10^{-12}$	$-1.154 \cdot 10^{-6}$	
ceWIm	$-2.878 \cdot 10^{-27}$	$-2.872 \cdot 10^{-27}$	0.001949	$9.72 \cdot 10^{-10}$	$9.72 \cdot 10^{-10}$	$-5.761 \cdot 10^{-7}$	
ceWRe	$-1.056 \cdot 10^{-9}$	$-1.056 \cdot 10^{-9}$	$-2.842 \cdot 10^{-7}$	$1.607 \cdot 10^{-9}$	$1.607 \cdot 10^{-9}$	$-5.599 \cdot 10^{-7}$	
${\tt cledjIm}$	$7.431 \cdot 10^{-21}$	$7.431 \cdot 10^{-21}$	$-1.05 \cdot 10^{-6}$	$2.208 \cdot 10^{-17}$	$2.208 \cdot 10^{-17}$	$-2.083 \cdot 10^{-6}$	
cledjRe	$-4.392 \cdot 10^{-17}$	$-4.392 \cdot 10^{-17}$	$-1.047 \cdot 10^{-6}$	$2.208 \cdot 10^{-17}$	$2.208 \cdot 10^{-17}$	$-2.083 \cdot 10^{-6}$	
cleju1Im	$-1.598 \cdot 10^{-21}$	$-1.598 \cdot 10^{-21}$	$-1.001 \cdot 10^{-6}$	$4.724 \cdot 10^{-18}$	$4.724 \cdot 10^{-18}$	$-2.032 \cdot 10^{-6}$	
cleju1Re	$9.451 \cdot 10^{-18}$	$9.451 \cdot 10^{-18}$	$-1.016 \cdot 10^{-6}$	$4.724 \cdot 10^{-18}$	$4.724 \cdot 10^{-18}$	$-2.032 \cdot 10^{-6}$	
cleju3Im	$-8.78 \cdot 10^{-23}$	$-8.78 \cdot 10^{-23}$	$-1.014 \cdot 10^{-6}$	$2.558 \cdot 10^{-21}$	$2.558 \cdot 10^{-21}$	$-2.033 \cdot 10^{-6}$	
cleju3Re	$3.201 \cdot 10^{-17}$	$3.201 \cdot 10^{-17}$	$-1.031 \cdot 10^{-6}$	$5.312 \cdot 10^{-17}$	$5.312 \cdot 10^{-17}$	$-2.033 \cdot 10^{-6}$	
clj3	0.005265	0.005265	0	0.02454	0.02454	0	
cll1	0.001731	0.001731	0	$5.246 \cdot 10^{-5}$	$5.246 \cdot 10^{-5}$	0	
cuWIm	$-2.087 \cdot 10^{-29}$	$-1.971 \cdot 10^{-29}$	0.05576	$9.217 \cdot 10^{-14}$	$9.217 \cdot 10^{-14}$	$-1.454 \cdot 10^{-6}$	
cuWRe	$-5.327 \cdot 10^{-13}$	$-5.327 \cdot 10^{-13}$	$-7.133 \cdot 10^{-7}$	$6.408 \cdot 10^{-13}$	$6.408 \cdot 10^{-13}$	$-1.451 \cdot 10^{-6}$	
sm	0	0	0	0.0144	0.0144	0	

#### **1.82** $u\bar{d} \rightarrow c\bar{s}$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHj3	0.0004269	0.0004269	0	$2.588 \cdot 10^{-5}$	$2.588 \cdot 10^{-5}$	0		
cH13	-0.0039	-0.0039	0	0.0002365	0.0002365	0		
$\mathtt{cHudIm}$	$-5.478 \cdot 10^{-32}$	$-8.217 \cdot 10^{-32}$	-0.5	$4.439 \cdot 10^{-16}$	$4.439 \cdot 10^{-16}$	$9.461 \cdot 10^{-7}$		
cHudRe	$-1.285 \cdot 10^{-15}$	$-1.285 \cdot 10^{-15}$	$4.671 \cdot 10^{-7}$	$1.84 \cdot 10^{-16}$	$1.84 \cdot 10^{-16}$	$9.785 \cdot 10^{-7}$		
$\mathtt{cdWIm}$	$-9.807 \cdot 10^{-27}$	$1.604 \cdot 10^{-27}$	1.164	$2.357 \cdot 10^{-9}$	$2.357 \cdot 10^{-9}$	$6.365 \cdot 10^{-7}$		
cdWRe	$-1.744 \cdot 10^{-9}$	$-1.744 \cdot 10^{-9}$	$3.441 \cdot 10^{-7}$	$3.437 \cdot 10^{-9}$	$3.437 \cdot 10^{-9}$	$6.401 \cdot 10^{-7}$		
cjj31	1.092	1.092	0	10.18	10.18	0		
cjj38	$-1.627 \cdot 10^{-9}$	$3.999 \cdot 10^{-24}$	1	0.1011	0.1011	0		
cjujd11Im	$-2.754 \cdot 10^{-19}$	$-2.754 \cdot 10^{-19}$	$-2.905 \cdot 10^{-7}$	$5.738 \cdot 10^{-16}$	$5.738 \cdot 10^{-16}$	$-6.099 \cdot 10^{-7}$		
cjujd11Re	$-1 \cdot 10^{-15}$	$-1 \cdot 10^{-15}$	$-2.999 \cdot 10^{-7}$	$2.002 \cdot 10^{-16}$	$2.002 \cdot 10^{-16}$	$-5.993 \cdot 10^{-7}$		
cjujd1Im	$-3.213 \cdot 10^{-18}$	$-3.213 \cdot 10^{-18}$	$-2.801 \cdot 10^{-7}$	$9.582 \cdot 10^{-15}$	$9.582 \cdot 10^{-15}$	$-6.053 \cdot 10^{-7}$		
cjujd1Re	$-1.926 \cdot 10^{-14}$	$-1.926 \cdot 10^{-14}$	$-3.115 \cdot 10^{-7}$	$9.582 \cdot 10^{-15}$	$9.582 \cdot 10^{-15}$	$-5.949 \cdot 10^{-7}$		
cjujd81Im	$-1.305 \cdot 10^{-18}$	$-1.305 \cdot 10^{-18}$	$-3.064 \cdot 10^{-7}$	$1.738 \cdot 10^{-15}$	$1.738 \cdot 10^{-15}$	$-5.754 \cdot 10^{-7}$		
cjujd81Re	$-5.556 \cdot 10^{-15}$	$-5.556 \cdot 10^{-15}$	$-3.06 \cdot 10^{-7}$	$8.816 \cdot 10^{-16}$	$8.816 \cdot 10^{-16}$	$-5.898 \cdot 10^{-7}$		
cjujd8Im	$8.56 \cdot 10^{-35}$	$1.143 \cdot 10^{-31}$	-1334	$2.129 \cdot 10^{-15}$	$2.129 \cdot 10^{-15}$	$-5.636 \cdot 10^{-7}$		
cjujd8Re	$-8.762 \cdot 10^{-35}$	$-8.762 \cdot 10^{-35}$	0	$2.129 \cdot 10^{-15}$	$2.129 \cdot 10^{-15}$	$-5.636 \cdot 10^{-7}$		
cll1	0.00195	0.00195	0	$5.911 \cdot 10^{-5}$	$5.911 \cdot 10^{-5}$	0		
cuWIm	$-1.176 \cdot 10^{-23}$	$-5.881 \cdot 10^{-24}$	0.5	$6.736 \cdot 10^{-7}$	$6.736 \cdot 10^{-7}$	$2.672 \cdot 10^{-7}$		
cuWRe	$-1.779 \cdot 10^{-7}$	$-1.779 \cdot 10^{-7}$	$1.686 \cdot 10^{-7}$	$4.384 \cdot 10^{-7}$	$4.384 \cdot 10^{-7}$	$2.737 \cdot 10^{-7}$		
sm	0	0	0	0.04239	0.04239	0		

# **1.83** $u\bar{d} \rightarrow u\bar{d}$

	interfe	erence	square		
mod1	mod2	$1-{\tt mod}2/{\tt mod}1$	mod1	mod2	1 - mod2/mod1

cHDD	-0.0606	-0.0606	0	0.00447	0.00447	0
cHWB	-0.004002	-0.004002	0	0.001125	0.001125	0
cHd	$8.288 \cdot 10^{-5}$	$8.288 \cdot 10^{-5}$	0	$3.476 \cdot 10^{-5}$	$3.476 \cdot 10^{-5}$	0
cHj1	-0.002664	-0.002664	0	0.0002113	0.0002113	0
cHj3	$4.258 \cdot 10^{-5}$	$4.258 \cdot 10^{-5}$	0	$8.306 \cdot 10^{-6}$	$8.306 \cdot 10^{-6}$	0
cH13	0.01263	0.01263	0	0.0005895	0.0005895	0
cHu	0.0001948	0.0001948	0	$5.143 \cdot 10^{-5}$	$5.143 \cdot 10^{-5}$	0
cHudIm	$-8.19 \cdot 10^{-37}$	$-8.146 \cdot 10^{-37}$	0.005311	$4.447 \cdot 10^{-24}$	$4.447 \cdot 10^{-24}$	$-2.653 \cdot 10^{-6}$
cHudRe	$-1.557 \cdot 10^{-19}$	$-1.557 \cdot 10^{-19}$	$-1.285 \cdot 10^{-6}$	$2.914 \cdot 10^{-26}$	$2.914 \cdot 10^{-26}$	$-2.677 \cdot 10^{-6}$
cdBIm	$-8.119 \cdot 10^{-24}$	$-8.119 \cdot 10^{-24}$	$-2.882 \cdot 10^{-6}$	$1.677 \cdot 10^{-10}$	$1.677 \cdot 10^{-10}$	$-1.193 \cdot 10^{-6}$
cdBRe	$-3.999 \cdot 10^{-12}$	$-3.999 \cdot 10^{-12}$	$-5.751 \cdot 10^{-7}$	$1.203 \cdot 10^{-11}$	$1.203 \cdot 10^{-11}$	$-1.164 \cdot 10^{-6}$
cdGIm	$1.614 \cdot 10^{-27}$	$1.615 \cdot 10^{-27}$	-0.0001099	$1.376 \cdot 10^{-10}$	$1.376 \cdot 10^{-10}$	$-1.163 \cdot 10^{-6}$
cdGRe	$-1.461 \cdot 10^{-10}$	$-1.461 \cdot 10^{-10}$	$-6.159 \cdot 10^{-7}$	$5.187 \cdot 10^{-11}$	$5.187 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$
cdHIm	$5.315 \cdot 10^{-36}$	$5.264 \cdot 10^{-36}$	0.009569	$9.679 \cdot 10^{-23}$	$9.679 \cdot 10^{-23}$	$-1.168 \cdot 10^{-6}$
cdHRe	$-1.741 \cdot 10^{-21}$	$-1.741 \cdot 10^{-21}$	$-6.32 \cdot 10^{-7}$	$9.434 \cdot 10^{-23}$	$9.434 \cdot 10^{-23}$	$-1.177 \cdot 10^{-6}$
cdWIm	$-1.466 \cdot 10^{-25}$	$-1.44 \cdot 10^{-25}$	0.01769	$1.426 \cdot 10^{-12}$	$1.426 \cdot 10^{-12}$	$-1.192 \cdot 10^{-6}$
cdWRe	$7.414 \cdot 10^{-11}$	$7.414 \cdot 10^{-11}$	$-5.8\cdot10^{-7}$	$2.552 \cdot 10^{-11}$	$2.552 \cdot 10^{-11}$	$-1.136 \cdot 10^{-6}$
cjd1	0.01412	0.01412	0	1	1	0
cjd8	-1.066	-1.066	0	0.2222	0.2222	0
cjj11	0.1382	0.1382	0	0.5839	0.5839	0
cjj18	-20.71	-20.71	0	0.7925	0.7925	0
cjj31	-0.01506	-0.01506	0	0.05121	0.05121	0
cjj38	0.3224	0.3224	$6.203 \cdot 10^{-8}$	0.5447	0.5447	$7.343 \cdot 10^{-8}$
cju1	-0.3257	-0.3257	0	1	1	0
cju8	-3.399	-3.399	0	0.2222	0.2222	0
cjujd11Im	$1.679 \cdot 10^{-34}$	$1.678 \cdot 10^{-34}$	0.0007751	$8.029 \cdot 10^{-20}$	$8.029 \cdot 10^{-20}$	$-2.665 \cdot 10^{-6}$
cjujd11Re	$-9.232 \cdot 10^{-21}$	$-9.232 \cdot 10^{-21}$	$-1.332 \cdot 10^{-6}$	$9.642 \cdot 10^{-20}$	$9.642 \cdot 10^{-20}$	$-2.666 \cdot 10^{-6}$
cjujd1Im	$-1.061 \cdot 10^{-34}$	$-1.1\cdot10^{-34}$	-0.03666	$1.391 \cdot 10^{-19}$	$1.391 \cdot 10^{-19}$	$-2.731 \cdot 10^{-6}$
cjujd1Re	$-7.805 \cdot 10^{-21}$	$-7.805 \cdot 10^{-21}$	$-1.332 \cdot 10^{-6}$	$9.933 \cdot 10^{-20}$	$9.933 \cdot 10^{-20}$	$-2.668 \cdot 10^{-6}$

cjujd81Im	$2.211 \cdot 10^{-35}$	$2.194 \cdot 10^{-35}$	0.008058	$1.193 \cdot 10^{-20}$	$1.193 \cdot 10^{-20}$	$-2.681 \cdot 10^{-6}$
cjujd81Re	$3.364 \cdot 10^{-20}$	$3.364 \cdot 10^{-20}$	$-1.308 \cdot 10^{-6}$	$1.121 \cdot 10^{-20}$	$1.121 \cdot 10^{-20}$	$-2.676 \cdot 10^{-6}$
cjujd8Im	$-3.768 \cdot 10^{-35}$	$-3.765 \cdot 10^{-35}$	0.000831	$1.613 \cdot 10^{-20}$	$1.613 \cdot 10^{-20}$	$-2.728 \cdot 10^{-6}$
cjujd8Re	$4.02 \cdot 10^{-20}$	$4.02 \cdot 10^{-20}$	$-1.319 \cdot 10^{-6}$	$1.1 \cdot 10^{-20}$	$1.1 \cdot 10^{-20}$	$-2.636 \cdot 10^{-6}$
cll1	-0.006315	-0.006315	0	0.0001474	0.0001474	0
cuBIm	$-1.182 \cdot 10^{-25}$	$-1.182 \cdot 10^{-25}$	0.0001289	$3.848 \cdot 10^{-13}$	$3.848 \cdot 10^{-13}$	$-1.455 \cdot 10^{-6}$
cuBRe	$-6.493 \cdot 10^{-14}$	$-6.493 \cdot 10^{-14}$	$-7.238 \cdot 10^{-7}$	$1.348 \cdot 10^{-14}$	$1.348 \cdot 10^{-14}$	$-1.41 \cdot 10^{-6}$
cuGIm	$-9.888 \cdot 10^{-28}$	$-1.003 \cdot 10^{-27}$	-0.01482	$5.287 \cdot 10^{-13}$	$5.287 \cdot 10^{-13}$	$-1.456 \cdot 10^{-6}$
cuGRe	$-3.001 \cdot 10^{-11}$	$-3.001 \cdot 10^{-11}$	$-7.332 \cdot 10^{-7}$	$5.287 \cdot 10^{-13}$	$5.287 \cdot 10^{-13}$	$-1.456 \cdot 10^{-6}$
cuHIm	$-8.627 \cdot 10^{-36}$	$-9.027 \cdot 10^{-36}$	-0.04639	$9.78 \cdot 10^{-23}$	$9.78 \cdot 10^{-23}$	$-1.442 \cdot 10^{-6}$
cuHRe	$-1.741 \cdot 10^{-21}$	$-1.741 \cdot 10^{-21}$	$-7.469 \cdot 10^{-7}$	$9.434 \cdot 10^{-23}$	$9.434 \cdot 10^{-23}$	$-1.452 \cdot 10^{-6}$
cuWIm	$3.216 \cdot 10^{-25}$	$3.218 \cdot 10^{-25}$	-0.0004562	$5.752 \cdot 10^{-12}$	$5.752 \cdot 10^{-12}$	$-1.443 \cdot 10^{-6}$
cuWRe	$-7.528 \cdot 10^{-12}$	$-7.528 \cdot 10^{-12}$	$-7.306 \cdot 10^{-7}$	$3.051 \cdot 10^{-13}$	$3.051 \cdot 10^{-13}$	$-1.442 \cdot 10^{-6}$
cud1	0.007612	0.007612	0	0.09676	0.09676	0
cud8	-0.5715	-0.5715	0	0.07835	0.07835	0
sm	0	0	0	7.804	7.804	0

#### 1.84 $u\bar{u} \rightarrow \nu_e \bar{\nu}_e$

		interfere	ence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
cHDD	$8.372 \cdot 10^{-6}$	$8.372 \cdot 10^{-6}$	0	$1.892 \cdot 10^{-6}$	$1.892 \cdot 10^{-6}$	0	
cHWB	$1.453 \cdot 10^{-5}$	$1.453 \cdot 10^{-5}$	0	$3.678 \cdot 10^{-6}$	$3.678 \cdot 10^{-6}$	0	
cHj1	-0.0001007	-0.0001007	0	$4.343 \cdot 10^{-6}$	$4.343 \cdot 10^{-6}$	0	
сНј3	0.0004392	0.0004392	0	$1.894 \cdot 10^{-5}$	$1.894 \cdot 10^{-5}$	0	
cHl1	-0.0001642	-0.0001642	0	$4.977 \cdot 10^{-6}$	$4.977 \cdot 10^{-6}$	0	
cH13	$-7.998 \cdot 10^{-5}$	$-7.998 \cdot 10^{-5}$	0	$2.424 \cdot 10^{-6}$	$2.424 \cdot 10^{-6}$	0	
cHu	$2.344 \cdot 10^{-6}$	$2.344 \cdot 10^{-6}$	0	$2.391 \cdot 10^{-7}$	$2.391 \cdot 10^{-7}$	0	
clj1	0.0001393	0.0001393	0	0.0007166	0.0007166	0	

clj3	0.009544	0.009544	0	0.04909	0.04909	0
cll1	$7.998 \cdot 10^{-5}$	$7.998 \cdot 10^{-5}$	0	$2.424 \cdot 10^{-6}$	$2.424 \cdot 10^{-6}$	0
clu	-0.003025	-0.003025	0	0.03681	0.03681	0
cuBIm	$-4.278 \cdot 10^{-28}$	$-4.278 \cdot 10^{-28}$	$7.947 \cdot 10^{-7}$	$9.665 \cdot 10^{-14}$	$9.665 \cdot 10^{-14}$	$-1.448 \cdot 10^{-6}$
cuBRe	$1.826 \cdot 10^{-13}$	$1.826 \cdot 10^{-13}$	$-7.12 \cdot 10^{-7}$	$3.512 \cdot 10^{-14}$	$3.512 \cdot 10^{-14}$	$-1.452 \cdot 10^{-6}$
cuWIm	$2.072 \cdot 10^{-29}$	$2.072 \cdot 10^{-29}$	$-1.655 \cdot 10^{-5}$	$3.154 \cdot 10^{-13}$	$3.154 \cdot 10^{-13}$	$-1.459 \cdot 10^{-6}$
cuWRe	$-3.41 \cdot 10^{-13}$	$-3.41 \cdot 10^{-13}$	$-7.039 \cdot 10^{-7}$	$1.225 \cdot 10^{-13}$	$1.225 \cdot 10^{-13}$	$-1.47 \cdot 10^{-6}$
sm	0	0	0	0.001467	0.001467	0

#### $1.85 \quad u\bar{u} \to c\bar{c}$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	-0.0005022	-0.0005022	0	$3.076 \cdot 10^{-5}$	$3.076 \cdot 10^{-5}$	0		
cHWB	-0.0003543	-0.0003543	0	$9.825 \cdot 10^{-5}$	$9.825 \cdot 10^{-5}$	0		
cHj1	$8.67 \cdot 10^{-5}$	$8.67\cdot10^{-5}$	0	$1.142 \cdot 10^{-5}$	$1.142 \cdot 10^{-5}$	0		
сНјЗ	0.001874	0.001874	0	0.0001004	0.0001004	0		
cH13	-0.002022	-0.002022	0	0.0001226	0.0001226	0		
cHu	0.0003837	0.0003837	0	$1.948 \cdot 10^{-5}$	$1.948 \cdot 10^{-5}$	0		
cjj11	0.1075	0.1075	0	0.9723	0.9723	0		
cjj18	0.7236	0.7236	0	0.4884	0.4884	0		
cjj31	0.05415	0.05415	0	0.4898	0.4898	0		
cjj38	0.2243	0.2243	0	0.1514	0.1514	0		
cju1	0.003575	0.003575	0	0.1339	0.1339	0		
cju8	1.083	1.083	0	0.3654	0.3654	0		
cll1	0.001011	0.001011	0	$3.065 \cdot 10^{-5}$	$3.065 \cdot 10^{-5}$	0		
cuBIm	$1.362 \cdot 10^{-23}$	$1.068 \cdot 10^{-23}$	0.2161	$1.865 \cdot 10^{-7}$	$1.865 \cdot 10^{-7}$	$2.681 \cdot 10^{-7}$		
cuBRe	$-2.161 \cdot 10^{-7}$	$-2.161 \cdot 10^{-7}$	$1.388 \cdot 10^{-7}$	$9.578 \cdot 10^{-8}$	$9.578 \cdot 10^{-8}$	$2.819 \cdot 10^{-7}$		
cuGIm	$9.626 \cdot 10^{-23}$	$6.326 \cdot 10^{-23}$	0.3428	$1.091 \cdot 10^{-6}$	$1.091 \cdot 10^{-6}$	$2.75 \cdot 10^{-7}$		

cuGRe	$-1.034 \cdot 10^{-5}$	$-1.034 \cdot 10^{-5}$	$9.669 \cdot 10^{-8}$	$1.091 \cdot 10^{-6}$	$1.091 \cdot 10^{-6}$	$2.75 \cdot 10^{-7}$
cuHIm	$1.088 \cdot 10^{-32}$	$-3.748 \cdot 10^{-33}$	1.345	$1.553 \cdot 10^{-17}$	$1.553 \cdot 10^{-17}$	$-5.794 \cdot 10^{-7}$
cuHRe	$-5.143 \cdot 10^{-16}$	$-5.143 \cdot 10^{-16}$	$-2.916 \cdot 10^{-7}$	$3.107 \cdot 10^{-17}$	$3.107 \cdot 10^{-17}$	$-5.794 \cdot 10^{-7}$
cuWIm	$-5.282 \cdot 10^{-24}$	$1.199 \cdot 10^{-23}$	3.271	$2.678 \cdot 10^{-7}$	$2.678 \cdot 10^{-7}$	$2.988 \cdot 10^{-7}$
cuWRe	$-4.057 \cdot 10^{-7}$	$-4.057 \cdot 10^{-7}$	$1.479 \cdot 10^{-7}$	$1.787 \cdot 10^{-7}$	$1.787 \cdot 10^{-7}$	$2.799 \cdot 10^{-7}$
cuu1	0.05294	0.05294	0	0.9723	0.9723	0
cuu8	0.9487	0.9487	0	0.6403	0.6403	0
sm	0	0	0	0.5471	0.5471	0

#### $1.86 \quad u\bar{u} \to u\bar{u}$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
cHDD	0.009868	0.009868	0	$8.743 \cdot 10^{-5}$	$8.743 \cdot 10^{-5}$	0		
cHWB	0.04498	0.04498	0	0.001763	0.001763	0		
cHj1	0.0347	0.0347	0	0.0006106	0.0006106	0		
сНјЗ	-0.003741	-0.003741	0	$5.504 \cdot 10^{-5}$	$5.504 \cdot 10^{-5}$	0		
cH13	0.004592	0.004592	0	$4.568 \cdot 10^{-5}$	$4.568 \cdot 10^{-5}$	0		
cHu	-0.002344	-0.002344	0	0.0001739	0.0001739	0		
cjj11	-0.01023	-0.01023	0	0.2103	0.2103	0		
cjj18	-0.2994	-0.2994	0	0.3135	0.3135	$-3.19 \cdot 10^{-8}$		
cjj31	-0.1133	-0.1133	0	0.9131	0.9131	0		
cjj38	-2.291	-2.291	$-8.73 \cdot 10^{-8}$	0.7199	0.7199	$-1.945 \cdot 10^{-7}$		
cju1	-0.1033	-0.1033	0	2.472	2.472	0		
cju8	-3.917	-3.917	0	0.4913	0.4913	0		
cll1	-0.002296	-0.002296	0	$1.142 \cdot 10^{-5}$	$1.142 \cdot 10^{-5}$	0		
cuBIm	$6.534 \cdot 10^{-27}$	$5.713 \cdot 10^{-27}$	0.1256	$1.627 \cdot 10^{-12}$	$1.627 \cdot 10^{-12}$	$-1.475 \cdot 10^{-6}$		
cuBRe	$-1.215 \cdot 10^{-11}$	$-1.215 \cdot 10^{-11}$	$-7.406 \cdot 10^{-7}$	$3.576 \cdot 10^{-12}$	$3.576 \cdot 10^{-12}$	$-1.454 \cdot 10^{-6}$		
cuGIm	$2.859 \cdot 10^{-27}$	$3.661 \cdot 10^{-27}$	-0.2809	$2.133 \cdot 10^{-11}$	$2.133 \cdot 10^{-11}$	$-1.407 \cdot 10^{-6}$		

cuGRe	$-1.037 \cdot 10^{-10}$	$-1.037 \cdot 10^{-10}$	$-7.715 \cdot 10^{-7}$	$2.133 \cdot 10^{-11}$	$2.133 \cdot 10^{-11}$	$-1.407 \cdot 10^{-6}$
cuHIm	$-8.112 \cdot 10^{-28}$	$-5.293 \cdot 10^{-28}$	0.3475	$1.096 \cdot 10^{-22}$	$1.096 \cdot 10^{-22}$	$-1.46 \cdot 10^{-6}$
cuHRe	$2.675 \cdot 10^{-11}$	$2.675 \cdot 10^{-11}$	$-7.104 \cdot 10^{-7}$	$2.019 \cdot 10^{-22}$	$2.019 \cdot 10^{-22}$	$-1.437 \cdot 10^{-6}$
cuWIm	$7.546 \cdot 10^{-27}$	$7.707 \cdot 10^{-27}$	-0.02139	$5.968 \cdot 10^{-12}$	$5.968 \cdot 10^{-12}$	$-1.458 \cdot 10^{-6}$
cuWRe	$-1.333 \cdot 10^{-11}$	$-1.333 \cdot 10^{-11}$	$-7.503 \cdot 10^{-7}$	$6.568 \cdot 10^{-12}$	$6.568 \cdot 10^{-12}$	$-1.462 \cdot 10^{-6}$
cuu1	-0.009392	-0.009392	0	0.2103	0.2103	0
cuu8	-0.03641	-0.03641	$-1.099 \cdot 10^{-7}$	0.1048	0.1048	$-1.909 \cdot 10^{-7}$
sm	0	0	0	2.932	2.932	0

#### 1.87 $zz \to W^+W^-$

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сНВ	-0.04382	-0.04382	0	0.04441	0.04441	0
cHBtil	$1.79 \cdot 10^{-16}$	$1.79 \cdot 10^{-16}$	0	0.04441	0.04441	0
cHDD	0.1357	0.1357	0	0.002059	0.002059	0
cHW	-0.3845	-0.3845	0	1.435	1.435	0
cHWB	0.2644	0.2644	0	0.1673	0.1673	0
cHWBtil	$-7.503 \cdot 10^{-15}$	$-7.503 \cdot 10^{-15}$	0	1.579	1.579	0
cHWtil	$1.199 \cdot 10^{-14}$	$1.199 \cdot 10^{-14}$	0	1.434	1.434	0
cH13	-58.24	-58.24	0	3.531	3.531	0
cW	-0.04058	-0.04058	0	15.99	15.99	0
cWtil	$-6.039 \cdot 10^{-15}$	$-6.044 \cdot 10^{-15}$	-0.0007979	13.9	13.9	0
cll1	29.12	29.12	0	0.8827	0.8827	0
sm	0	0	0	32.39	32.39	0

1.88  $zz \rightarrow zz$ 

interference

square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
сНВ	0.001448	0.001448	0	0.08666	0.08666	0
cHBtil	$-8.91 \cdot 10^{-19}$	$-8.91 \cdot 10^{-19}$	0	0.06788	0.06788	0
cHDD	0.004641	0.004641	0	$7.033 \cdot 10^{-5}$	$7.033 \cdot 10^{-5}$	0
cHW	0.005937	0.005937	0	0.9847	0.9847	0
cHWB	0.003255	0.003255	0	0.2308	0.2308	0
cHWBtil	$2.726 \cdot 10^{-17}$	$2.726 \cdot 10^{-17}$	0	0.2545	0.2545	0
cHWtil	$-5.846 \cdot 10^{-18}$	$-5.846 \cdot 10^{-18}$	0	0.8141	0.8141	0
cH13	-0.01968	-0.01968	0	0.001193	0.001193	0
cll1	0.009838	0.009838	0	0.0002982	0.0002982	0
sm	0	0	0	0.08081	0.08081	0

# 2 By parameter point

# 2.1 cG

		interfere		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$gg \to gg$	$-3.846 \cdot 10^{-9}$	$-3.846 \cdot 10^{-9}$	$2.86 \cdot 10^{-7}$	116.8	116.8	0	
gg  o ggg	-0.001078	-0.001078	0	0.009278	0.009278	0	
$gg  o t \bar t$	-0.08595	-0.08595	0	1.845	1.845	0	
$gg \to u\bar{u}$	$-1.803 \cdot 10^{-11}$	$-1.803 \cdot 10^{-11}$	0	2.496	2.496	0	

## 2.2 cGtil

		interfere		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$gg \to gg$	$-3.526 \cdot 10^{-16}$	$-3.586 \cdot 10^{-16}$	-0.01693	90.45	90.45	0	
$gg \to ggg$	-0.02182	-0.02182	0	0.04787	0.04787	0	

gg  o t ar t	$5.249 \cdot 10^{-17}$	$5.249 \cdot 10^{-17}$	0	0.5258	0.5258	0
$gg \to u\bar{u}$	$-1.679 \cdot 10^{-27}$	$-1.679 \cdot 10^{-27}$	0	1.418	1.418	0

## 2.3 cH

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
$HH \to HH$	-1.38	-1.38	0	2.161	2.161	0	
$HH \to HHH$	$5.012 \cdot 10^{-6}$	$5.012 \cdot 10^{-6}$	0	$6.38 \cdot 10^{-5}$	$6.38 \cdot 10^{-5}$	0	
$HH \to H \tau^+ \tau^-$	$-3.542 \cdot 10^{-10}$	$-3.542 \cdot 10^{-10}$	0	$1.516 \cdot 10^{-9}$	$1.516 \cdot 10^{-9}$	0	
$HH  o Hbar{b}$	$-3.059 \cdot 10^{-9}$	$-3.059 \cdot 10^{-9}$	0	$9.146 \cdot 10^{-9}$	$9.146 \cdot 10^{-9}$	0	
$HH \to Hs\bar{s}$	$-2.335 \cdot 10^{-11}$	$-2.335 \cdot 10^{-11}$	0	$3.829 \cdot 10^{-11}$	$3.829 \cdot 10^{-11}$	0	
$HH \to H t \bar t$	$1.495 \cdot 10^{-5}$	$1.495 \cdot 10^{-5}$	0	$3.189 \cdot 10^{-5}$	$3.189 \cdot 10^{-5}$	0	
$HH \to Hu\bar{u}$	$-1.626 \cdot 10^{-15}$	$-1.626 \cdot 10^{-15}$	0	$3.371 \cdot 10^{-15}$	$3.371 \cdot 10^{-15}$	0	
$HH \rightarrow Hzz$	$-5.057 \cdot 10^{-5}$	$-5.057 \cdot 10^{-5}$	0	$3.12 \cdot 10^{-5}$	$3.12 \cdot 10^{-5}$	0	
$HH \rightarrow W^+W^-$	0.7027	0.7027	0	0.1331	0.1331	0	
$HH \to W^+W^-\gamma$	$-1.065 \cdot 10^{-7}$	$-1.065 \cdot 10^{-7}$	0	$3.074 \cdot 10^{-8}$	$3.074 \cdot 10^{-8}$	0	
$HH \to W^+ \bar{t} b$	$1.17\cdot 10^{-6}$	$1.17\cdot 10^{-6}$	0	$1.615 \cdot 10^{-6}$	$1.615 \cdot 10^{-6}$	0	
$HH \to W^+ e^- \bar{\nu}_e$	$3.386 \cdot 10^{-8}$	$3.386 \cdot 10^{-8}$	0	$5.149 \cdot 10^{-10}$	$5.149 \cdot 10^{-10}$	0	
$HH \to W^- u \bar{d}$	$6.132 \cdot 10^{-9}$	$6.132 \cdot 10^{-9}$	0	$1.512 \cdot 10^{-10}$	$1.512 \cdot 10^{-10}$	0	
$HH \to z\bar{b}b$	$3.06 \cdot 10^{-9}$	$3.06 \cdot 10^{-9}$	0	$2.212 \cdot 10^{-10}$	$2.212 \cdot 10^{-10}$	0	
$HH \to z \nu_e \bar{\nu}_e$	$1.033 \cdot 10^{-6}$	$1.033 \cdot 10^{-6}$	0	$2.504 \cdot 10^{-8}$	$2.504 \cdot 10^{-8}$	0	
$HH \to zc\bar{c}$	$6.542 \cdot 10^{-9}$	$6.542 \cdot 10^{-9}$	0	$6.092 \cdot 10^{-9}$	$6.092 \cdot 10^{-9}$	0	
$HH \to z d\bar{d}$	$1.639 \cdot 10^{-8}$	$1.639 \cdot 10^{-8}$	0	$3.251 \cdot 10^{-10}$	$3.251 \cdot 10^{-10}$	0	
$HH \rightarrow ze^+e^-$	$1.011 \cdot 10^{-9}$	$1.011 \cdot 10^{-9}$	0	$4.847 \cdot 10^{-11}$	$4.847 \cdot 10^{-11}$	0	
$HH \to zt\bar{t}$	$-2.257 \cdot 10^{-7}$	$-2.257 \cdot 10^{-7}$	0	$5.761 \cdot 10^{-7}$	$5.761 \cdot 10^{-7}$	0	
$HH \rightarrow zz$	2.904	2.904	0	0.06606	0.06606	0	
$W^+W^-  o Hb\bar{b}$	$-2.856 \cdot 10^{-10}$	$-2.856 \cdot 10^{-10}$	0	$5.123 \cdot 10^{-11}$	$5.123 \cdot 10^{-11}$	0	
$W^+W^- \to Hc\bar{c}$	$-9.787 \cdot 10^{-12}$	$-9.787 \cdot 10^{-12}$	0	$5.275 \cdot 10^{-12}$	$5.275 \cdot 10^{-12}$	0	

$W^+W^- \to H d\bar{d}$	$2.344 \cdot 10^{-16}$	$2.344 \cdot 10^{-16}$	0	$7.361 \cdot 10^{-16}  7.361 \cdot 10^{-16}$	0
$W^+W^-  o H t ar t$	$3.841 \cdot 10^{-7}$	$3.841 \cdot 10^{-7}$	0	$4.798 \cdot 10^{-8}$ $4.798 \cdot 10^{-8}$	0

# 2.4 cHB

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
$HH \to Hzz$	$1.214 \cdot 10^{-6}$	$1.214 \cdot 10^{-6}$	0	$7.292 \cdot 10^{-7}$	$7.292 \cdot 10^{-7}$	0	
$HH  o W^+W^-\gamma$	$-1.09 \cdot 10^{-6}$	$-1.09 \cdot 10^{-6}$	0	$1.219 \cdot 10^{-6}$	$1.219 \cdot 10^{-6}$	0	
$HH  o z\bar{b}b$	$8.565 \cdot 10^{-7}$	$8.565 \cdot 10^{-7}$	0	$2.248 \cdot 10^{-6}$	$2.248 \cdot 10^{-6}$	0	
$HH \to z \nu_e \bar{\nu}_e$	$3.157 \cdot 10^{-8}$	$3.157 \cdot 10^{-8}$	0	$8.487 \cdot 10^{-8}$	$8.487 \cdot 10^{-8}$	0	
$HH \to z c \bar{c}$	$-8.262 \cdot 10^{-9}$	$-8.262 \cdot 10^{-9}$	0	$1.089 \cdot 10^{-6}$	$1.089 \cdot 10^{-6}$	0	
$HH \to z d\bar{d}$	$9.994 \cdot 10^{-8}$	$9.994 \cdot 10^{-8}$	0	$7.221 \cdot 10^{-8}$	$7.221 \cdot 10^{-8}$	0	
$HH \rightarrow ze^+e^-$	$3.527 \cdot 10^{-8}$	$3.527 \cdot 10^{-8}$	0	$1.917 \cdot 10^{-7}$	$1.917 \cdot 10^{-7}$	0	
$HH \to z t \bar{t}$	$-2.491 \cdot 10^{-6}$	$-2.491 \cdot 10^{-6}$	0	$4.187 \cdot 10^{-7}$	$4.187 \cdot 10^{-7}$	0	
$HH \rightarrow zz$	0.02873	0.02873	0	0.2244	0.2244	0	
$HW^+  o \gamma t \bar{b}$	$9.062 \cdot 10^{-7}$	$9.062 \cdot 10^{-7}$	0	$1.515 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	0	
$HW^+ \to \gamma u \bar{d}$	$5.024 \cdot 10^{-11}$	$5.024 \cdot 10^{-11}$	0	$8.88 \cdot 10^{-9}$	$8.88 \cdot 10^{-9}$	0	
$HW^- \to \gamma e^- \bar{\nu}_e$	$-3.317 \cdot 10^{-9}$	$-3.317 \cdot 10^{-9}$	0	$2.011 \cdot 10^{-9}$	$2.011 \cdot 10^{-9}$	0	
$H\gamma  o b\bar{b}$	$-8.692 \cdot 10^{-7}$	$-8.692 \cdot 10^{-7}$	0	0.005665	0.005665	0	
$H\gamma \to c\bar{c}$	$-4.574 \cdot 10^{-11}$	$-4.574 \cdot 10^{-11}$	0	0.01635	0.01635	0	
$H\gamma \to d\bar{d}$	$-1.243 \cdot 10^{-12}$	$-1.243 \cdot 10^{-12}$	0	0.005761	0.005761	0	
$H\gamma \to e^+e^-$	$-4.505 \cdot 10^{-13}$	$-4.505 \cdot 10^{-13}$	0	0.02063	0.02063	0	
$H\gamma \to t\bar{t}$	-0.01944	-0.01944	0	0.01904	0.01904	0	
$Hz \to \mu^+\mu^-$	0.0002874	0.0002874	0	0.003395	0.003395	0	
$Hz \to \nu_{ au} \bar{\nu}_{ au}$	0.001038	0.001038	0	0.000843	0.000843	0	
$Hz  o b\bar{b}$	0.001018	0.001018	0	0.001198	0.001198	0	
$Hz \to s\bar{s}$	0.001047	0.001047	0	0.001219	0.001219	0	
$Hz \to t\bar{t}$	-0.01394	-0.01394	0	0.005794	0.005794	0	

$Hz \to u\bar{u}$	0.0005568	0.0005568	0	0.005088	0.005088	0
$W^+W^-  o Hb\bar b$	$-2.39 \cdot 10^{-8}$	$-2.39 \cdot 10^{-8}$	0	$2.709 \cdot 10^{-10}$	$2.709 \cdot 10^{-10}$	0
$W^+W^-  o Hc\bar{c}$	$1.826 \cdot 10^{-8}$	$1.826 \cdot 10^{-8}$	0	$9.398 \cdot 10^{-10}$	$9.398 \cdot 10^{-10}$	0
$W^+W^-  o H d \bar d$	$-1.107 \cdot 10^{-8}$	$-1.107 \cdot 10^{-8}$	0	$2.06 \cdot 10^{-10}$	$2.06 \cdot 10^{-10}$	0
$W^+W^-  o H t \bar t$	$-1.235 \cdot 10^{-8}$	$-1.235 \cdot 10^{-8}$	0	$9.634 \cdot 10^{-10}$	$9.634 \cdot 10^{-10}$	0
$W^+W^-  o \gamma\gamma$	-0.04155	-0.04155	0	0.2771	0.2771	0
$W^+W^-  o \gamma\gamma\gamma$	$-2.217 \cdot 10^{-8}$	$-2.217 \cdot 10^{-8}$	0	$7.858 \cdot 10^{-7}$	$7.858 \cdot 10^{-7}$	0
$\gamma W^+  o z W^+$	-0.06276	-0.06276	0	0.1171	0.1171	0
$b\bar{b} \to \gamma \gamma$	$-9.98 \cdot 10^{-7}$	$-9.98 \cdot 10^{-7}$	0	$7.26 \cdot 10^{-6}$	$7.26 \cdot 10^{-6}$	0
$zz  o W^+W^-$	-0.04382	-0.04382	0	0.04441	0.04441	0
$zz \rightarrow zz$	0.001448	0.001448	0	0.08666	0.08666	0

# 2.5 cHBtil

		ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \rightarrow Hzz$	$5.755 \cdot 10^{-7}$	$5.755 \cdot 10^{-7}$	0	$1.795 \cdot 10^{-7}$	$1.795 \cdot 10^{-7}$	0
$HH  o W^+W^-\gamma$	$-2.505 \cdot 10^{-8}$	$-2.505 \cdot 10^{-8}$	0	$1.324 \cdot 10^{-7}$	$1.324 \cdot 10^{-7}$	0
HH  o z ar b b	$1.199 \cdot 10^{-7}$	$1.199 \cdot 10^{-7}$	0	$1.236 \cdot 10^{-7}$	$1.236 \cdot 10^{-7}$	0
$HH \to z \nu_e \bar{\nu}_e$	$-3.308 \cdot 10^{-8}$	$-3.308 \cdot 10^{-8}$	0	$4.562 \cdot 10^{-7}$	$4.562 \cdot 10^{-7}$	0
$HH \to zc\bar{c}$	$2.259 \cdot 10^{-7}$	$2.259 \cdot 10^{-7}$	0	$1.175 \cdot 10^{-6}$	$1.175 \cdot 10^{-6}$	0
$HH \to z d\bar{d}$	$-1.575 \cdot 10^{-8}$	$-1.575 \cdot 10^{-8}$	0	$8.511 \cdot 10^{-9}$	$8.511 \cdot 10^{-9}$	0
$HH \rightarrow ze^+e^-$	$-2.42 \cdot 10^{-8}$	$-2.42 \cdot 10^{-8}$	0	$4.607 \cdot 10^{-7}$	$4.607 \cdot 10^{-7}$	0
$HH \to z t \bar{t}$	$4.684 \cdot 10^{-7}$	$4.684 \cdot 10^{-7}$	0	$2.122 \cdot 10^{-7}$	$2.122 \cdot 10^{-7}$	0
$HH \rightarrow zz$	$2.777 \cdot 10^{-17}$	$2.777 \cdot 10^{-17}$	0	0.1973	0.1973	0
$HW^+  o \gamma t \bar{b}$	$-3.119 \cdot 10^{-9}$	$-3.119 \cdot 10^{-9}$	0	$2.852 \cdot 10^{-8}$	$2.852 \cdot 10^{-8}$	0
$HW^+ \to \gamma u \bar{d}$	$-1.481 \cdot 10^{-9}$	$-1.481 \cdot 10^{-9}$	0	$2.925 \cdot 10^{-9}$	$2.925 \cdot 10^{-9}$	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$-1.825 \cdot 10^{-9}$	$-1.825 \cdot 10^{-9}$	0	$2.343 \cdot 10^{-8}$	$2.343 \cdot 10^{-8}$	0
$H\gamma \to b\bar{b}$	$-1.342 \cdot 10^{-8}$	$-1.342 \cdot 10^{-8}$	0	0.008721	0.008721	0

$H\gamma \to c\bar{c}$	$3.083 \cdot 10^{-11}$	$3.083 \cdot 10^{-11}$	0	0.01639	0.01639	0
$H\gamma \to d\bar{d}$	$-1.022 \cdot 10^{-15}$	$-1.022 \cdot 10^{-15}$	0	0.005159	0.005159	0
$H\gamma \to e^+e^-$	$-8.806 \cdot 10^{-17}$	$-8.806 \cdot 10^{-17}$	0	0.02303	0.02303	0
$H\gamma \to t\bar{t}$	$-4.574 \cdot 10^{-7}$	$-4.574 \cdot 10^{-7}$	0	0.01725	0.01725	0
$Hz \to \mu^+\mu^-$	$3.039 \cdot 10^{-7}$	$3.039 \cdot 10^{-7}$	0	0.003827	0.003827	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	$-7.214 \cdot 10^{-20}$	$-7.214 \cdot 10^{-20}$	0	0.001041	0.001041	0
$Hz  o b ar{b}$	$3.149 \cdot 10^{-7}$	$3.149 \cdot 10^{-7}$	0	0.001324	0.001324	0
$Hz \to s\bar{s}$	$4.18 \cdot 10^{-7}$	$4.18 \cdot 10^{-7}$	0	0.001611	0.001611	0
$Hz \to t\bar{t}$	$-7.653 \cdot 10^{-7}$	$-7.653 \cdot 10^{-7}$	0	0.004456	0.004456	0
$Hz \to u\bar{u}$	$4.331 \cdot 10^{-8}$	$4.331 \cdot 10^{-8}$	0	0.003131	0.003131	0
$W^+W^- \to Hb\bar{b}$	$2.54 \cdot 10^{-9}$	$2.54 \cdot 10^{-9}$	0	$6.806 \cdot 10^{-11}$	$6.806 \cdot 10^{-11}$	0
$W^+W^-  o Hc\bar{c}$	$6.37 \cdot 10^{-9}$	$6.37 \cdot 10^{-9}$	0	$7.25 \cdot 10^{-10}$	$7.25 \cdot 10^{-10}$	0
$W^+W^- \to H d\bar{d}$	$-4.968 \cdot 10^{-10}$	$-4.968 \cdot 10^{-10}$	0	$1.756 \cdot 10^{-11}$	$1.756 \cdot 10^{-11}$	0
$W^+W^-  o Ht\bar{t}$	$1.12 \cdot 10^{-8}$	$1.12 \cdot 10^{-8}$	0	$5.236 \cdot 10^{-11}$	$5.236 \cdot 10^{-11}$	0
$W^+W^-  o \gamma\gamma$	$-1.805 \cdot 10^{-16}$	$-1.805 \cdot 10^{-16}$	0	0.2771	0.2771	0
$W^+W^-  o \gamma\gamma\gamma$	$-9.549 \cdot 10^{-8}$	$-9.549 \cdot 10^{-8}$	0	$2.219 \cdot 10^{-6}$	$2.219 \cdot 10^{-6}$	0
$\gamma W^+  o z W^+$	$-1.779 \cdot 10^{-17}$	$-1.779 \cdot 10^{-17}$	0	0.004132	0.004132	0
$b\bar{b} \to \gamma \gamma$	$1.724 \cdot 10^{-23}$	$1.724 \cdot 10^{-23}$	0	$7.26 \cdot 10^{-6}$	$7.26 \cdot 10^{-6}$	0
$zz  o W^+W^-$	$1.79 \cdot 10^{-16}$	$1.79 \cdot 10^{-16}$	0	0.04441	0.04441	0
$zz \to zz$	$-8.91 \cdot 10^{-19}$	$-8.91 \cdot 10^{-19}$	0	0.06788	0.06788	0

# 2.6 cHDD

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
HH  o HH	-0.1147	-0.1147	0	0.01484	0.01484	0	
$HH \to HHH$	$-2.995 \cdot 10^{-7}$	$-2.995 \cdot 10^{-7}$	0	$6.962 \cdot 10^{-7}$	$6.962 \cdot 10^{-7}$	0	
$HH  o H  au^+  au^-$	$1.014 \cdot 10^{-11}$	$1.014 \cdot 10^{-11}$	0	$6.514 \cdot 10^{-13}$	$6.514 \cdot 10^{-13}$	0	
$HH  o Hbar{b}$	$-8.778 \cdot 10^{-10}$	$-8.778 \cdot 10^{-10}$	0	$3.024 \cdot 10^{-10}$	$3.024 \cdot 10^{-10}$	0	

$HH  o Hs\bar{s}$	$-8.827 \cdot 10^{-10}$	$-8.827 \cdot 10^{-10}$	0	$1.228 \cdot 10^{-10}$	$1.228 \cdot 10^{-10}$	0
$HH \to H t \bar t$	$1.42 \cdot 10^{-5}$	$1.42 \cdot 10^{-5}$	0	$1.513 \cdot 10^{-6}$	$1.513\cdot10^{-6}$	0
$HH \to Hu\bar{u}$	$-3.957 \cdot 10^{-17}$	$-3.957 \cdot 10^{-17}$	0	$3.357 \cdot 10^{-17}$	$3.357 \cdot 10^{-17}$	0
$HH \rightarrow Hzz$	$-4.747 \cdot 10^{-6}$	$-4.747 \cdot 10^{-6}$	0	$1.683 \cdot 10^{-6}$	$1.683 \cdot 10^{-6}$	0
$HH \to W^+W^-$	4.086	4.086	0	0.07824	0.07824	0
$HH  o W^+W^-\gamma$	$-3.1 \cdot 10^{-7}$	$-3.1\cdot10^{-7}$	0	$2.417 \cdot 10^{-7}$	$2.417\cdot10^{-7}$	0
$HH \to W^+ \bar{t} b$	$1.795 \cdot 10^{-5}$	$1.795 \cdot 10^{-5}$	0	$1.649 \cdot 10^{-6}$	$1.649 \cdot 10^{-6}$	0
$HH \to W^+ e^- \bar{\nu}_e$	$-1.949 \cdot 10^{-8}$	$-1.949 \cdot 10^{-8}$	0	$1.651 \cdot 10^{-8}$	$1.651\cdot10^{-8}$	0
$HH \to W^- u \bar{d}$	$-1.618 \cdot 10^{-7}$	$-1.618 \cdot 10^{-7}$	0	$2.244 \cdot 10^{-9}$	$2.244 \cdot 10^{-9}$	0
$HH \to z\bar{b}b$	$-1.304 \cdot 10^{-7}$	$-1.304 \cdot 10^{-7}$	0	$6.731 \cdot 10^{-8}$	$6.731 \cdot 10^{-8}$	0
$HH \to z \nu_e \bar{\nu}_e$	$-6.462 \cdot 10^{-10}$	$-6.462 \cdot 10^{-10}$	0	$1.701 \cdot 10^{-9}$	$1.701 \cdot 10^{-9}$	0
$HH \to zc\bar{c}$	$-2.577 \cdot 10^{-8}$	$-2.577 \cdot 10^{-8}$	0	$4.556 \cdot 10^{-8}$	$4.556 \cdot 10^{-8}$	0
$HH \to z d\bar{d}$	$-1.998 \cdot 10^{-7}$	$-1.998 \cdot 10^{-7}$	0	$1.722 \cdot 10^{-8}$	$1.722 \cdot 10^{-8}$	0
$HH \rightarrow ze^+e^-$	$2.916 \cdot 10^{-9}$	$2.916 \cdot 10^{-9}$	0	$3.277 \cdot 10^{-9}$	$3.277 \cdot 10^{-9}$	0
$HH \to zt\bar{t}$	$4.516 \cdot 10^{-6}$	$4.516 \cdot 10^{-6}$	0	$3.792 \cdot 10^{-6}$	$3.792 \cdot 10^{-6}$	0
$HH \rightarrow zz$	-0.2606	-0.2606	0	0.4455	0.4455	0
$HW^+  o \gamma t \bar{b}$	$-4.662 \cdot 10^{-7}$	$-4.662 \cdot 10^{-7}$	0	$1.585 \cdot 10^{-8}$	$1.585 \cdot 10^{-8}$	0
$HW^+ \to \gamma u \bar{d}$	$-2.786 \cdot 10^{-7}$	$-2.786 \cdot 10^{-7}$	0	$9.475 \cdot 10^{-9}$	$9.475 \cdot 10^{-9}$	0
$HW^+  o u \bar d$	-0.000301	-0.000301	0	$2.281 \cdot 10^{-6}$	$2.281 \cdot 10^{-6}$	0
$HW^-  o \bar{t}b$	-0.1807	-0.1807	0	0.001369	0.001369	0
$HW^-  o \gamma e^- \bar{\nu}_e$	$-1.97 \cdot 10^{-8}$	$-1.97 \cdot 10^{-8}$	0	$6.698 \cdot 10^{-10}$	$6.698 \cdot 10^{-10}$	0
$HW^- \to \mu^- \bar{\nu}_{\mu}$	-0.0002267	-0.0002267	0	$1.718 \cdot 10^{-6}$	$1.718 \cdot 10^{-6}$	0
$H\gamma  o b\bar{b}$	$-8.961 \cdot 10^{-5}$	$-8.961 \cdot 10^{-5}$	0	$3.047 \cdot 10^{-6}$	$3.047 \cdot 10^{-6}$	0
$H\gamma \to c\bar{c}$	$-4.301 \cdot 10^{-6}$	$-4.301 \cdot 10^{-6}$	0	$1.462 \cdot 10^{-7}$	$1.462 \cdot 10^{-7}$	0
$H\gamma \to d\bar{d}$	$-1.303 \cdot 10^{-11}$	$-1.303 \cdot 10^{-11}$	0	$4.432 \cdot 10^{-13}$	$4.432 \cdot 10^{-13}$	0
$H\gamma \to e^+e^-$	$-4.852 \cdot 10^{-13}$	$-4.852 \cdot 10^{-13}$	0	$1.65 \cdot 10^{-14}$	$1.65 \cdot 10^{-14}$	0
$H\gamma \to t\bar{t}$	-0.09008	-0.09008	0	0.003063	0.003063	0
$Hz \rightarrow \mu^+\mu^-$	$6.263 \cdot 10^{-5}$	$6.263 \cdot 10^{-5}$	0	$2.718 \cdot 10^{-5}$	$2.718 \cdot 10^{-5}$	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	$1.112 \cdot 10^{-18}$	$1.112 \cdot 10^{-18}$	0	$6.426 \cdot 10^{-35}$	$6.426 \cdot 10^{-35}$	0

$Hz  o b\bar{b}$	0.0004274	0.0004274	0	$1.815 \cdot 10^{-5}$	$1.815 \cdot 10^{-5}$	0
$Hz \to s\bar{s}$	0.0004236	0.0004236	0	$9.47 \cdot 10^{-6}$	$9.47 \cdot 10^{-6}$	0
$Hz \to t\bar{t}$	0.008897	0.008897	0	0.01713	0.01713	0
$Hz \to u\bar{u}$	0.0003617	0.0003617	0	$2.8 \cdot 10^{-5}$	$2.8\cdot 10^{-5}$	0
$W^+W^- \to H b \bar b$	$-6.029 \cdot 10^{-8}$	$-6.029 \cdot 10^{-8}$	0	$1.344 \cdot 10^{-9}$	$1.344 \cdot 10^{-9}$	0
$W^+W^- \to H c \bar c$	$-1.491 \cdot 10^{-8}$	$-1.491 \cdot 10^{-8}$	0	$3.547 \cdot 10^{-10}$	$3.547 \cdot 10^{-10}$	0
$W^+W^- \to H d\bar{d}$	$-2.96 \cdot 10^{-6}$	$-2.96 \cdot 10^{-6}$	0	$3.755 \cdot 10^{-8}$	$3.755 \cdot 10^{-8}$	0
$W^+W^-  o H t \bar t$	$-6.686 \cdot 10^{-6}$	$-6.686 \cdot 10^{-6}$	0	$5.644 \cdot 10^{-7}$	$5.644 \cdot 10^{-7}$	0
$W^+W^- \rightarrow W^+W^-$	0.3367	0.3367	0	0.005742	0.005742	0
$W^+W^- \to \gamma\gamma$	-0.01759	-0.01759	0	0.0009294	0.0009294	0
$W^+W^- \to \gamma\gamma\gamma$	$-7.523 \cdot 10^{-8}$	$-7.523 \cdot 10^{-8}$	0	$5.964 \cdot 10^{-9}$	$5.964 \cdot 10^{-9}$	0
$\gamma W^+ \to z W^+$	-0.03348	-0.03348	0	0.000631	0.000631	0
$\mu^+\mu^- \to \tau^+\tau^-$	-0.001495	-0.001495	0	$9.941 \cdot 10^{-5}$	$9.941 \cdot 10^{-5}$	0
$\nu_{\tau}\bar{\nu}_{\tau} \to \nu_{\tau}\bar{\nu}_{\tau}$	-0.0005052	-0.0005052	0	$7.657 \cdot 10^{-6}$	$7.657 \cdot 10^{-6}$	0
$ u_e \bar{\nu}_e \to \nu_\mu \bar{\nu}_\mu$	-0.0002737	-0.0002737	0	$4.148 \cdot 10^{-6}$	$4.148 \cdot 10^{-6}$	0
$b\bar{b}  o \gamma \gamma$	$-1.784 \cdot 10^{-5}$	$-1.784 \cdot 10^{-5}$	0	$9.431 \cdot 10^{-7}$	$9.431 \cdot 10^{-7}$	0
$b\bar{b} \to \mu^+\mu^-$	$-3.667 \cdot 10^{-5}$	$-3.667 \cdot 10^{-5}$	0	$6.087 \cdot 10^{-6}$	$6.087 \cdot 10^{-6}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	$-3.43 \cdot 10^{-5}$	$-3.43 \cdot 10^{-5}$	0	$8.998 \cdot 10^{-7}$	$8.998 \cdot 10^{-7}$	0
$b\bar{b}  o b\bar{b}$	0.04149	0.04149	0	0.0005445	0.0005445	0
$b\bar{b} \to d\bar{d}$	$-5.9 \cdot 10^{-5}$	$-5.9 \cdot 10^{-5}$	0	$1.6 \cdot 10^{-6}$	$1.6 \cdot 10^{-6}$	0
$b\bar{b}  o t\bar{t}$	0.000307	0.000307	0	$6.818 \cdot 10^{-6}$	$6.818 \cdot 10^{-6}$	0
$b\bar{b} \to u\bar{u}$	$-4.135 \cdot 10^{-5}$	$-4.135 \cdot 10^{-5}$	0	$3.364 \cdot 10^{-6}$	$3.364 \cdot 10^{-6}$	0
$c\bar{c} \to \mu^+ \mu^-$	-0.0001583	-0.0001583	0	$1.074 \cdot 10^{-5}$	$1.074 \cdot 10^{-5}$	0
$d\bar{d} \to c\bar{c}$	$-5.001 \cdot 10^{-5}$	$-5.001 \cdot 10^{-5}$	0	$3.527 \cdot 10^{-6}$	$3.527 \cdot 10^{-6}$	0
$d\bar{d} \rightarrow e^+e^-$	$-5.891 \cdot 10^{-5}$	$-5.891 \cdot 10^{-5}$	0	$4.125 \cdot 10^{-6}$	$4.125 \cdot 10^{-6}$	0
$d\bar{d} \to s\bar{s}$	$-7.158 \cdot 10^{-5}$	$-7.158 \cdot 10^{-5}$	0	$1.843 \cdot 10^{-6}$	$1.843 \cdot 10^{-6}$	0
$e^+\nu_\mu \to e^+\nu_\mu$	-0.007984	-0.007984	0	0.0008953	0.0008953	0
$e^+\nu_e^-  o e^+\nu_e^-$	-0.01804	-0.01804	0	0.004215	0.004215	0
$e^+\tau^- \rightarrow e^+\tau^-$	-0.004691	-0.004691	0	0.000309	0.000309	0

$e^+e^- \to \mu^+\mu^-$	-0.002309	-0.002309	0	0.000134	0.000134	0
$e^+e^- \rightarrow e^+e^-$	-0.6773	-0.6773	0	0.04005	0.04005	0
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$-7.797 \cdot 10^{-5}$	$-7.797 \cdot 10^{-5}$	0	$5.254 \cdot 10^{-7}$	$5.254 \cdot 10^{-7}$	0
$s\bar{s} \to s\bar{s}$	0.005101	0.005101	0	$1.751 \cdot 10^{-5}$	$1.751 \cdot 10^{-5}$	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$-4.428 \cdot 10^{-5}$	$-4.428 \cdot 10^{-5}$	0	$4.763 \cdot 10^{-6}$	$4.763 \cdot 10^{-6}$	0
$t\bar{t} \to \tau^+ \tau^-$	-0.000386	-0.000386	0	$2.23 \cdot 10^{-5}$	$2.23 \cdot 10^{-5}$	0
$t\bar{t} \to c\bar{c}$	-0.0001729	-0.0001729	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0
$t\bar{t} \to d\bar{d}$	$-6.031 \cdot 10^{-5}$	$-6.031 \cdot 10^{-5}$	0	$9.506 \cdot 10^{-6}$	$9.506 \cdot 10^{-6}$	0
$t\bar{t} \to s\bar{s}$	$-3.365 \cdot 10^{-5}$	$-3.365 \cdot 10^{-5}$	0	$4.057 \cdot 10^{-6}$	$4.057 \cdot 10^{-6}$	0
$t\bar{t} \to t\bar{t}$	0.03033	0.03033	0	0.0008616	0.0008616	0
$u\bar{d} \to u\bar{d}$	-0.0606	-0.0606	0	0.00447	0.00447	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	$8.372 \cdot 10^{-6}$	$8.372 \cdot 10^{-6}$	0	$1.892 \cdot 10^{-6}$	$1.892 \cdot 10^{-6}$	0
$u\bar{u} \to c\bar{c}$	-0.0005022	-0.0005022	0	$3.076 \cdot 10^{-5}$	$3.076 \cdot 10^{-5}$	0
$u\bar{u} \to u\bar{u}$	0.009868	0.009868	0	$8.743 \cdot 10^{-5}$	$8.743 \cdot 10^{-5}$	0
$zz \to W^+W^-$	0.1357	0.1357	0	0.002059	0.002059	0
$zz \to zz$	0.004641	0.004641	0	$7.033 \cdot 10^{-5}$	$7.033 \cdot 10^{-5}$	0

#### 2.7 cHG

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$gg \to t\bar{t}$	-0.03997	-0.03997	0	0.04069	0.04069	0		
$gg \to u\bar{u}$	$-7.279 \cdot 10^{-12}$	$-7.279 \cdot 10^{-12}$	0	$7.223 \cdot 10^{-12}$	$7.223 \cdot 10^{-12}$	0		

#### 2.8 cHGtil

$gg \to ggg$	$2.799 \cdot 10^{-13}$	$2.799 \cdot 10^{-13}$	0	$8.403 \cdot 10^{-25}$	$8.403 \cdot 10^{-25}$	0
$gg \to t\bar{t}$	$2.309 \cdot 10^{-17}$	$2.309 \cdot 10^{-17}$	0	0.04069	0.04069	0
$gg \to u\bar{u}$	$1.831 \cdot 10^{-28}$	$1.831 \cdot 10^{-28}$	0	$7.223 \cdot 10^{-12}$	$7.223 \cdot 10^{-12}$	0

# 2.9 cHQ1

		rence		square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH  o z \bar{b} b$	$9.386 \cdot 10^{-6}$	$9.386 \cdot 10^{-6}$	0	$2.952 \cdot 10^{-5}$	$2.952 \cdot 10^{-5}$	0
$HH \to z t \bar{t}$	$2.093 \cdot 10^{-5}$	$2.093 \cdot 10^{-5}$	0	$2.854 \cdot 10^{-5}$	$2.854 \cdot 10^{-5}$	0
$Hz \to b\bar{b}$	0.0282	0.0282	0	0.128	0.128	0
$Hz \to t\bar{t}$	2.064	2.064	0	0.9798	0.9798	0
$W^+W^- \to H b \bar b$	$3.333 \cdot 10^{-6}$	$3.333 \cdot 10^{-6}$	0	$6.986 \cdot 10^{-7}$	$6.986 \cdot 10^{-7}$	0
$W^+W^-  o Ht\bar{t}$	$-1.82 \cdot 10^{-6}$	$-1.82 \cdot 10^{-6}$	0	$5.098 \cdot 10^{-6}$	$5.098 \cdot 10^{-6}$	0
$b\bar{b}  o \mu^+\mu^-$	0.0002343	0.0002343	0	$5.665 \cdot 10^{-6}$	$5.665 \cdot 10^{-6}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	0.0001071	0.0001071	0	$3.814 \cdot 10^{-6}$	$3.814 \cdot 10^{-6}$	0
$b\bar{b}  o b\bar{b}$	8.386	8.386	0	0.7	0.7	0
$b\bar{b}  o d\bar{d}$	0.001162	0.001162	0	$3.746 \cdot 10^{-5}$	$3.746 \cdot 10^{-5}$	0
$b\bar{b}  o t\bar{t}$	-0.0008314	-0.0008314	0	$1.602 \cdot 10^{-6}$	$1.602 \cdot 10^{-6}$	0
$b\bar{b} \to u\bar{u}$	0.000341	0.000341	0	$1.067 \cdot 10^{-5}$	$1.067 \cdot 10^{-5}$	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	-0.0004714	-0.0004714	0	$2.063 \cdot 10^{-5}$	$2.063 \cdot 10^{-5}$	0
$t\bar{t} \to \tau^+ \tau^-$	$-5.424 \cdot 10^{-5}$	$-5.424 \cdot 10^{-5}$	0	$3.051 \cdot 10^{-6}$	$3.051 \cdot 10^{-6}$	0
$t\bar{t} \to c\bar{c}$	-0.0005814	-0.0005814	0	$1.66 \cdot 10^{-5}$	$1.66 \cdot 10^{-5}$	0
$t\bar{t} \to d\bar{d}$	$2.128 \cdot 10^{-5}$	$2.128 \cdot 10^{-5}$	0	$1.607 \cdot 10^{-6}$	$1.607 \cdot 10^{-6}$	0
$t\bar{t} \to s\bar{s}$	-0.0003057	-0.0003057	0	$1.146 \cdot 10^{-5}$	$1.146 \cdot 10^{-5}$	0
$t\bar{t} \to t\bar{t}$	0.04621	0.04621	0	0.008579	0.008579	0

# 2.10 cHQ3

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to W^+ \bar{t} b$	$7.003 \cdot 10^{-6}$	$7.003 \cdot 10^{-6}$	0	$2.6 \cdot 10^{-6}$		0	
$HH  o z \bar{b} b$		$8.74 \cdot 10^{-7}$	0	$3.054 \cdot 10^{-6}$	$3.054 \cdot 10^{-6}$	0	
$HH \to zt\bar{t}$			0	$8.124 \cdot 10^{-5}$	$8.124 \cdot 10^{-5}$	0	
$HW^+  o \gamma t \bar{b}$	$3.673 \cdot 10^{-8}$	$3.673 \cdot 10^{-8}$	0	$3.697 \cdot 10^{-8}$	$3.697 \cdot 10^{-8}$	0	
$HW^- \to \bar{t}b$	-2.078	-2.078	0	1.69	1.69	0	
$Hz \to b\bar{b}$	0.2088	0.2088	0	0.899	0.899	0	
$Hz \to t\bar{t}$	-2.031	-2.031	0	0.8042	0.8042	0	
$W^+W^-  o Hb\bar{b}$	$-1.802 \cdot 10^{-6}$	$-1.802 \cdot 10^{-6}$	0	$9.419 \cdot 10^{-7}$	$9.419 \cdot 10^{-7}$	0	
$W^+W^- \to H t \bar t$	$1.314 \cdot 10^{-5}$	$1.314 \cdot 10^{-5}$	0	$1.905 \cdot 10^{-5}$	$1.905 \cdot 10^{-5}$	0	
$\bar{b}t \to \bar{d}u$	0.003393	0.003393	0	0.0001029	0.0001029	0	
$b\bar{b} \to \mu^+\mu^-$	0.0001176	0.0001176	0	$3.355 \cdot 10^{-6}$	$3.355 \cdot 10^{-6}$	0	
$b\bar{b}  o  u_e \bar{ u}_e$	$3.11 \cdot 10^{-5}$	$3.11 \cdot 10^{-5}$	0	$1.107 \cdot 10^{-6}$	$1.107 \cdot 10^{-6}$	0	
$b\bar{b}  o b\bar{b}$	-0.003889	-0.003889	0	$4.151 \cdot 10^{-5}$	$4.151 \cdot 10^{-5}$	0	
$b\bar{b}  o d\bar{d}$	$3.6 \cdot 10^{-5}$	$3.6 \cdot 10^{-5}$	0	$1.931 \cdot 10^{-6}$	$1.931 \cdot 10^{-6}$	0	
$b\bar{b}  o t\bar{t}$	0.04454	0.04454	0	0.007655	0.007655	0	
$b\bar{b} \to u\bar{u}$	$8.036 \cdot 10^{-5}$	$8.036 \cdot 10^{-5}$	0	$5.27 \cdot 10^{-6}$	$5.27 \cdot 10^{-6}$	0	
$b\bar{t} \to e^-\bar{\nu}_e$	0.0001949	0.0001949	0	$5.909 \cdot 10^{-6}$	$5.909 \cdot 10^{-6}$	0	
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$9.013 \cdot 10^{-6}$	$9.013 \cdot 10^{-6}$	0	$6.844 \cdot 10^{-7}$	$6.844 \cdot 10^{-7}$	0	
$t\bar{t} \to \tau^+ \tau^-$	$-1.056 \cdot 10^{-5}$	$-1.056 \cdot 10^{-5}$	0	$3.337 \cdot 10^{-6}$	$3.337 \cdot 10^{-6}$	0	
$t\bar{t} \to c\bar{c}$	0.0008245	0.0008245	0	$2.25 \cdot 10^{-5}$	$2.25 \cdot 10^{-5}$	0	
$t\bar{t} \to d\bar{d}$	$-1.853 \cdot 10^{-5}$	$-1.853 \cdot 10^{-5}$	0	$1.639 \cdot 10^{-6}$	$1.639 \cdot 10^{-6}$	0	
$t\bar{t} \to s\bar{s}$	0.001163	0.001163	0	$4.029 \cdot 10^{-5}$	$4.029 \cdot 10^{-5}$	0	
$t\bar{t} \to t\bar{t}$	-0.1797	-0.1797	0	0.009408	0.009408	0	

## 2.11 cHW

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

$HH \rightarrow Hzz$	$5.342 \cdot 10^{-6}$	$5.342 \cdot 10^{-6}$	0	$7.476 \cdot 10^{-6}$	$7.476 \cdot 10^{-6}$	0
$HH \rightarrow W^+W^-$	0.1118	0.1118	0	9.088	9.088	0
$HH \to W^+W^-\gamma$	$-1.557 \cdot 10^{-6}$	$-1.557 \cdot 10^{-6}$	0	0.0001216	0.0001216	0
$HH  o W^+ ar t b$	$-4.271 \cdot 10^{-6}$	$-4.271 \cdot 10^{-6}$	0	$6.523 \cdot 10^{-6}$	$6.523 \cdot 10^{-6}$	0
$HH \to W^+ e^- \bar{\nu}_e$	$4.322 \cdot 10^{-7}$	$4.322 \cdot 10^{-7}$	0	$1.382 \cdot 10^{-6}$	$1.382 \cdot 10^{-6}$	0
$HH  o W^- u \bar{d}$	$-4.38 \cdot 10^{-7}$	$-4.38 \cdot 10^{-7}$	0	$1.564 \cdot 10^{-6}$	$1.564 \cdot 10^{-6}$	0
$HH  o z \bar{b} b$	$-9.617 \cdot 10^{-8}$	$-9.617 \cdot 10^{-8}$	0	$4.379 \cdot 10^{-7}$	$4.379 \cdot 10^{-7}$	0
$HH \to z \nu_e \bar{\nu}_e$	$3.581 \cdot 10^{-7}$	$3.581 \cdot 10^{-7}$	0	$2.439 \cdot 10^{-7}$	$2.439 \cdot 10^{-7}$	0
$HH \to zc\bar{c}$	$6.422 \cdot 10^{-7}$	$6.422 \cdot 10^{-7}$	0	$1.764 \cdot 10^{-5}$	$1.764 \cdot 10^{-5}$	0
$HH \to z d\bar{d}$	$7.406 \cdot 10^{-7}$	$7.406 \cdot 10^{-7}$	0	$1.815 \cdot 10^{-6}$	$1.815 \cdot 10^{-6}$	0
$HH \rightarrow ze^+e^-$	$2.563 \cdot 10^{-7}$	$2.563 \cdot 10^{-7}$	0	$1.795 \cdot 10^{-6}$	$1.795 \cdot 10^{-6}$	0
$HH \to z t \bar{t}$	$-1.215 \cdot 10^{-5}$	$-1.215 \cdot 10^{-5}$	0	$2.447 \cdot 10^{-6}$	$2.447 \cdot 10^{-6}$	0
$HH \rightarrow zz$	0.02307	0.02307	0	2.284	2.284	0
$HW^+ \to \gamma t \bar{b}$	$-7.521 \cdot 10^{-7}$	$-7.521 \cdot 10^{-7}$	0	$3.979 \cdot 10^{-7}$	$3.979 \cdot 10^{-7}$	0
$HW^+ \to \gamma u \bar{d}$	$-1.202 \cdot 10^{-5}$	$-1.202 \cdot 10^{-5}$	0	$3.918 \cdot 10^{-5}$	$3.918 \cdot 10^{-5}$	0
$HW^+ \to u\bar{d}$	0.02096	0.02096	0	0.0983	0.0983	0
$HW^-  o \bar{t}b$	-0.0642	-0.0642	0	0.07868	0.07868	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$5.527 \cdot 10^{-9}$	$5.527 \cdot 10^{-9}$	0	$1.642 \cdot 10^{-7}$	$1.642 \cdot 10^{-7}$	0
$HW^-  o \mu^- \bar{\nu}_\mu$	0.004325	0.004325	0	0.02029	0.02029	0
$H\gamma  o bar{b}$	$-4.7 \cdot 10^{-6}$	$-4.7 \cdot 10^{-6}$	0	0.01105	0.01105	0
$H\gamma \to c\bar{c}$	$-1.903 \cdot 10^{-6}$	$-1.903 \cdot 10^{-6}$	0	0.01256	0.01256	0
$H\gamma \to d\bar{d}$	$-2.46 \cdot 10^{-12}$	$-2.46 \cdot 10^{-12}$	0	0.009891	0.009891	0
$H\gamma \to e^+e^-$	$-8.214 \cdot 10^{-13}$	$-8.214 \cdot 10^{-13}$	0	0.005248	0.005248	0
$H\gamma \to t\bar{t}$	-0.1179	-0.1179	0	0.01476	0.01476	0
$Hz \to \mu^+\mu^-$	0.001352	0.001352	0	0.006866	0.006866	0
$Hz \to \nu_{ au} \bar{\nu}_{ au}$	0.002565	0.002565	0	0.007266	0.007266	0
$Hz  o b\bar{b}$	0.006118	0.006118	0	0.02043	0.02043	0
$Hz \to s\bar{s}$	0.007825	0.007825	0	0.026	0.026	0
$Hz \to t\bar{t}$	-0.0769	-0.0769	0	0.0341	0.0341	0

$Hz \to u\bar{u}$	0.009734	0.009734	0	0.0391	0.0391	0
$W^+W^- \to H b \bar b$	$-3.775 \cdot 10^{-8}$	$-3.775 \cdot 10^{-8}$	0	$7.246 \cdot 10^{-8}$	$7.246 \cdot 10^{-8}$	0
$W^+W^- \to Hc\bar{c}$	$1.149 \cdot 10^{-5}$	$1.149 \cdot 10^{-5}$	0	0.0001781	0.0001781	0
$W^+W^-  o Hd\bar{d}$	$-3.089 \cdot 10^{-6}$	$-3.089 \cdot 10^{-6}$	0	$6.018 \cdot 10^{-6}$	$6.018 \cdot 10^{-6}$	0
$W^+W^- \to H t \bar t$	$2.715 \cdot 10^{-6}$	$2.715 \cdot 10^{-6}$	0	$1.197 \cdot 10^{-5}$	$1.197 \cdot 10^{-5}$	0
$W^+W^- \to W^+W^-$	0.2158	0.2158	0	1.883	1.883	0
$W^+W^- \to \gamma\gamma$	-0.01245	-0.01245	0	0.02279	0.02279	0
$W^+W^-  o \gamma\gamma\gamma$	$-2.978 \cdot 10^{-9}$	$-2.978 \cdot 10^{-9}$	0	$2.066 \cdot 10^{-8}$	$2.066 \cdot 10^{-8}$	0
$\gamma W^+ \to z W^+$	0.06824	0.06824	0	0.1633	0.1633	0
$b\bar{b}  o \gamma \gamma$	$-1.744 \cdot 10^{-7}$	$-1.744 \cdot 10^{-7}$	0	$5.97 \cdot 10^{-7}$	$5.97 \cdot 10^{-7}$	0
$zz  o W^+W^-$	-0.3845	-0.3845	0	1.435	1.435	0
$zz \to zz$	0.005937	0.005937	0	0.9847	0.9847	0

# 2.12 cHWB

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \rightarrow Hzz$	$7.981 \cdot 10^{-6}$	$7.981 \cdot 10^{-6}$	0	$1.263 \cdot 10^{-5}$	$1.263 \cdot 10^{-5}$	0	
$HH \to W^+W^-\gamma$	$-9.065 \cdot 10^{-6}$	$-9.065 \cdot 10^{-6}$	0	$5.4 \cdot 10^{-6}$	$5.4 \cdot 10^{-6}$	0	
$HH \to z\bar{b}b$	$-7.944 \cdot 10^{-8}$	$-7.944 \cdot 10^{-8}$	0	$7.136 \cdot 10^{-8}$	$7.136 \cdot 10^{-8}$	0	
$HH \to z \nu_e \bar{\nu}_e$	$2.802 \cdot 10^{-7}$	$2.802 \cdot 10^{-7}$	0	$2.22 \cdot 10^{-7}$	$2.22 \cdot 10^{-7}$	0	
$HH \to zc\bar{c}$	$2.1 \cdot 10^{-7}$	$2.1\cdot 10^{-7}$	0	$4.823 \cdot 10^{-6}$	$4.823 \cdot 10^{-6}$	0	
$HH \to z d\bar{d}$	$3.052 \cdot 10^{-7}$	$3.052 \cdot 10^{-7}$	0	$2.351 \cdot 10^{-7}$	$2.351 \cdot 10^{-7}$	0	
$HH \rightarrow ze^+e^-$	$8.31 \cdot 10^{-8}$	$8.31 \cdot 10^{-8}$	0	$4.551 \cdot 10^{-8}$	$4.551 \cdot 10^{-8}$	0	
$HH \to z t \bar{t}$	$-1.607 \cdot 10^{-5}$	$-1.607 \cdot 10^{-5}$	0	$2.096 \cdot 10^{-6}$	$2.096 \cdot 10^{-6}$	0	
$HH \rightarrow zz$	0.01059	0.01059	0	0.6493	0.6493	0	
$HW^+ \to \gamma t \bar{b}$	$-1.414 \cdot 10^{-6}$	$-1.414 \cdot 10^{-6}$	0	$6.255 \cdot 10^{-6}$	$6.255 \cdot 10^{-6}$	0	
$HW^+ \rightarrow \gamma u \bar{d}$	$-9.091 \cdot 10^{-8}$	$-9.091 \cdot 10^{-8}$	0	$2.463 \cdot 10^{-8}$	$2.463 \cdot 10^{-8}$	0	
$HW^- \to \gamma e^- \bar{\nu}_e$	$4.803 \cdot 10^{-9}$	$4.803 \cdot 10^{-9}$	0	$2.007 \cdot 10^{-6}$	$2.007 \cdot 10^{-6}$	0	

$H\gamma \to b\bar{b}$	$-1.75 \cdot 10^{-5}$	$-1.75 \cdot 10^{-5}$	0	0.008139	0.008139	0
$H\gamma \to c\bar{c}$	$-1.051 \cdot 10^{-5}$	$-1.051 \cdot 10^{-5}$	0	0.01652	0.01652	0
$H\gamma \to d\bar{d}$	$-2.125 \cdot 10^{-11}$	$-2.125 \cdot 10^{-11}$	0	0.007448	0.007448	0
$H\gamma \to e^+e^-$	$-7.555 \cdot 10^{-13}$	$-7.555 \cdot 10^{-13}$	0	0.005169	0.005169	0
$H\gamma \to t\bar{t}$	-0.09372	-0.09372	0	0.01725	0.01725	0
$Hz \to \mu^+\mu^-$	0.001045	0.001045	0	0.003351	0.003351	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	0.002373	0.002373	0	0.0036	0.0036	0
$Hz \to b\bar{b}$	0.003144	0.003144	0	0.003798	0.003798	0
$Hz \to s\bar{s}$	0.002857	0.002857	0	0.003299	0.003299	0
$Hz \to t\bar{t}$	-0.01667	-0.01667	0	0.007943	0.007943	0
$Hz \to u\bar{u}$	0.002452	0.002452	0	0.003889	0.003889	0
$W^+W^-  o Hb\bar{b}$	$-1.311 \cdot 10^{-7}$	$-1.311 \cdot 10^{-7}$	0	$2.993 \cdot 10^{-8}$	$2.993 \cdot 10^{-8}$	0
$W^+W^- \to H c \bar{c}$	$-3.462 \cdot 10^{-8}$	$-3.462 \cdot 10^{-8}$	0	$9.93 \cdot 10^{-7}$	$9.93 \cdot 10^{-7}$	0
$W^+W^- \to H d\bar{d}$	$-6.003 \cdot 10^{-8}$	$-6.003 \cdot 10^{-8}$	0	$1.382 \cdot 10^{-8}$	$1.382 \cdot 10^{-8}$	0
$W^+W^- \to H t \bar t$	$-3.495 \cdot 10^{-7}$	$-3.495 \cdot 10^{-7}$	0	$2.415 \cdot 10^{-7}$	$2.415 \cdot 10^{-7}$	0
$W^+W^- \rightarrow W^+W^-$	0.0736	0.0736	0	0.0317	0.0317	0
$W^+W^- \to \gamma\gamma$	-0.1188	-0.1188	0	0.09875	0.09875	0
$W^+W^- \to \gamma\gamma\gamma$	$-8.375 \cdot 10^{-7}$	$-8.375 \cdot 10^{-7}$	0	$3.144 \cdot 10^{-7}$	$3.144 \cdot 10^{-7}$	0
$\gamma W^+ \to z W^+$	0.09425	0.09425	0	0.817	0.817	0
$\mu^+\mu^- \to \tau^+\tau^-$	-0.00374	-0.00374	0	0.0006105	0.0006105	0
$b\bar{b} \to \gamma \gamma$	$-3.438 \cdot 10^{-5}$	$-3.438 \cdot 10^{-5}$	0	$5.95 \cdot 10^{-6}$	$5.95 \cdot 10^{-6}$	0
$b\bar{b} \rightarrow \mu^+\mu^-$	-0.0001001	-0.0001001	0	$1.316 \cdot 10^{-5}$	$1.316 \cdot 10^{-5}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	$-1.089 \cdot 10^{-5}$	$-1.089 \cdot 10^{-5}$	0	$1.19 \cdot 10^{-6}$	$1.19 \cdot 10^{-6}$	0
$b\bar{b}  o b\bar{b}$	0.0005755	0.0005755	0	$5.048 \cdot 10^{-6}$	$5.048 \cdot 10^{-6}$	0
$b\bar{b} \to d\bar{d}$	$2.003 \cdot 10^{-5}$	$2.003 \cdot 10^{-5}$	0	$1.056 \cdot 10^{-6}$	$1.056 \cdot 10^{-6}$	0
b ar b  o t ar t	-0.0001334	-0.0001334	0	$1.938 \cdot 10^{-5}$	$1.938 \cdot 10^{-5}$	0
$b\bar{b} \to u\bar{u}$	$-1.084 \cdot 10^{-5}$	$-1.084 \cdot 10^{-5}$	0	$1.298 \cdot 10^{-5}$	$1.298 \cdot 10^{-5}$	0
$c\bar{c} \to \mu^+ \mu^-$	-0.0007427	-0.0007427	0	$6.953 \cdot 10^{-5}$	$6.953 \cdot 10^{-5}$	0
$d\bar{d} \to c\bar{c}$	$-1.955 \cdot 10^{-5}$	$-1.955 \cdot 10^{-5}$	0	$1.181\cdot 10^{-5}$	$1.181\cdot10^{-5}$	0

$d\bar{d} \rightarrow e^+e^-$	-0.0001409	-0.0001409	0	$1.69 \cdot 10^{-5}$	$1.69 \cdot 10^{-5}$	0
$d\bar{d} \rightarrow s\bar{s}$	$4.748 \cdot 10^{-5}$	$4.748 \cdot 10^{-5}$	0	$2.222 \cdot 10^{-6}$	$2.222 \cdot 10^{-6}$	0
$e^+\nu_\mu \to e^+\nu_\mu$	-0.0008835	-0.0008835	0	$5.011 \cdot 10^{-5}$	$5.011 \cdot 10^{-5}$	0
$e^+\nu_e \rightarrow e^+\nu_e$	-0.001063	-0.001063	0	$7.11 \cdot 10^{-5}$	$7.11 \cdot 10^{-5}$	0
$e^+\tau^- \rightarrow e^+\tau^-$	-0.009265	-0.009265	0	0.001498	0.001498	0
$e^+e^- \rightarrow \mu^+\mu^-$	-0.003857	-0.003857	0	0.0006372	0.0006372	0
$e^+e^- \rightarrow e^+e^-$	-2.637	-2.637	0	0.3168	0.3168	0
$s\bar{s}  o  u_{ au} ar{ u}_{ au}$	$7.121 \cdot 10^{-5}$	$7.121 \cdot 10^{-5}$	0	$9.748 \cdot 10^{-7}$	$9.748 \cdot 10^{-7}$	0
$s\bar{s} \to s\bar{s}$	0.2142	0.2142	0	0.01191	0.01191	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$-8.005 \cdot 10^{-5}$	$-8.005 \cdot 10^{-5}$	0	$5.965 \cdot 10^{-6}$	$5.965 \cdot 10^{-6}$	0
$t\bar{t} \rightarrow \tau^+ \tau^-$	-0.0004818	-0.0004818	0	$8.058 \cdot 10^{-5}$	$8.058 \cdot 10^{-5}$	0
$t\bar{t} \to c\bar{c}$	-0.00139	-0.00139	0	0.0001159	0.0001159	0
$t\bar{t} \to d\bar{d}$	$-2.806 \cdot 10^{-5}$	$-2.806 \cdot 10^{-5}$	0	$1.751 \cdot 10^{-5}$	$1.751 \cdot 10^{-5}$	0
$t\bar{t}  o s\bar{s}$	-0.0001501	-0.0001501	0	$3.221 \cdot 10^{-5}$	$3.221 \cdot 10^{-5}$	0
$t\bar{t} \to t\bar{t}$	0.06002	0.06002	0	0.001729	0.001729	0
$u\bar{d} \to u\bar{d}$	-0.004002	-0.004002	0	0.001125	0.001125	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	$1.453 \cdot 10^{-5}$	$1.453 \cdot 10^{-5}$	0	$3.678 \cdot 10^{-6}$	$3.678 \cdot 10^{-6}$	0
$u\bar{u} \to c\bar{c}$	-0.0003543	-0.0003543	0	$9.825 \cdot 10^{-5}$	$9.825 \cdot 10^{-5}$	0
$u\bar{u} \to u\bar{u}$	0.04498	0.04498	0	0.001763	0.001763	0
$zz \to W^+W^-$	0.2644	0.2644	0	0.1673	0.1673	0
$zz \to zz$	0.003255	0.003255	0	0.2308	0.2308	0

#### 2.13 cHWBtil

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \rightarrow Hzz$	$-2.559 \cdot 10^{-6}$	$-2.559 \cdot 10^{-6}$	0	$6.317 \cdot 10^{-7}$	$6.317 \cdot 10^{-7}$	0	
$HH \rightarrow W^+W^-\gamma$	$-2.225 \cdot 10^{-8}$	$-2.225 \cdot 10^{-8}$	0	$1.513 \cdot 10^{-6}$	$1.513 \cdot 10^{-6}$	0	
$HH  o z \bar b b$	$-1.228 \cdot 10^{-7}$	$-1.228 \cdot 10^{-7}$	0	$8.521 \cdot 10^{-8}$	$8.521 \cdot 10^{-8}$	0	

$HH \to z \nu_e \bar{\nu}_e$	$-4.966 \cdot 10^{-8}$	$-4.966 \cdot 10^{-8}$	0	$3.408 \cdot 10^{-7}$	$3.408 \cdot 10^{-7}$	0
$HH \to zc\bar{c}$	$-6.2 \cdot 10^{-7}$	$-6.2\cdot10^{-7}$	0	$4.771 \cdot 10^{-6}$	$4.771 \cdot 10^{-6}$	0
$HH \to z d\bar{d}$	$1.325 \cdot 10^{-7}$	$1.325 \cdot 10^{-7}$	0	$4.746 \cdot 10^{-7}$	$4.746 \cdot 10^{-7}$	0
$HH \rightarrow ze^+e^-$	$-5.402 \cdot 10^{-8}$	$-5.402 \cdot 10^{-8}$	0	$1.265 \cdot 10^{-7}$	$1.265\cdot10^{-7}$	0
$HH \to z t \bar{t}$	$-6.179 \cdot 10^{-7}$	$-6.179 \cdot 10^{-7}$	0	$5.433 \cdot 10^{-7}$	$5.433 \cdot 10^{-7}$	0
$HH \rightarrow zz$	$-3.174 \cdot 10^{-17}$	$-3.174 \cdot 10^{-17}$	0	0.6626	0.6626	0
$HW^+ \to \gamma t \bar{b}$	$1.503 \cdot 10^{-7}$	$1.503 \cdot 10^{-7}$	0	$2.393 \cdot 10^{-6}$	$2.393 \cdot 10^{-6}$	0
$HW^+ \to \gamma u \bar{d}$	$9.302 \cdot 10^{-9}$	$9.302 \cdot 10^{-9}$	0	$3.372 \cdot 10^{-7}$	$3.372 \cdot 10^{-7}$	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$-1.696 \cdot 10^{-8}$	$-1.696 \cdot 10^{-8}$	0	$9.004 \cdot 10^{-7}$	$9.004 \cdot 10^{-7}$	0
$H\gamma \to b\bar{b}$	$-2.111 \cdot 10^{-9}$	$-2.111 \cdot 10^{-9}$	0	0.009058	0.009058	0
$H\gamma \to c\bar{c}$	$7.847 \cdot 10^{-10}$	$7.847 \cdot 10^{-10}$	0	0.01654	0.01654	0
$H\gamma \to d\bar{d}$	$-2.65 \cdot 10^{-15}$	$-2.65 \cdot 10^{-15}$	0	0.00907	0.00907	0
$H\gamma \to e^+e^-$	$4.399 \cdot 10^{-17}$	$4.399 \cdot 10^{-17}$	0	0.007524	0.007524	0
$H\gamma \to t\bar{t}$	$-9.602 \cdot 10^{-6}$	$-9.602 \cdot 10^{-6}$	0	0.01215	0.01215	0
$Hz \to \mu^+\mu^-$	$-2.035 \cdot 10^{-7}$	$-2.035 \cdot 10^{-7}$	0	0.002695	0.002695	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	$1.4 \cdot 10^{-19}$	$1.4 \cdot 10^{-19}$	0	0.002774	0.002774	0
$Hz \to b\bar{b}$	$5.057 \cdot 10^{-8}$	$5.057 \cdot 10^{-8}$	0	0.003342	0.003342	0
$Hz \to s\bar{s}$	$-1.13 \cdot 10^{-7}$	$-1.13 \cdot 10^{-7}$	0	0.003655	0.003655	0
$Hz \to t\bar{t}$	$1.749 \cdot 10^{-5}$	$1.749 \cdot 10^{-5}$	0	0.006077	0.006077	0
$Hz \to u\bar{u}$	$-1.607 \cdot 10^{-7}$	$-1.607 \cdot 10^{-7}$	0	0.003441	0.003441	0
$W^+W^-  o Hbar{b}$	$-3.545 \cdot 10^{-8}$	$-3.545 \cdot 10^{-8}$	0	$3.989 \cdot 10^{-8}$	$3.989 \cdot 10^{-8}$	0
$W^+W^- \to Hc\bar{c}$	$-1.174 \cdot 10^{-8}$	$-1.174 \cdot 10^{-8}$	0	$7.329 \cdot 10^{-8}$	$7.329 \cdot 10^{-8}$	0
$W^+W^- \to H d\bar{d}$	$8.51 \cdot 10^{-11}$	$8.51 \cdot 10^{-11}$	0	$1.103 \cdot 10^{-8}$	$1.103 \cdot 10^{-8}$	0
$W^+W^- \to H t \bar t$	$-2.161 \cdot 10^{-8}$	$-2.161 \cdot 10^{-8}$	0	$1.729 \cdot 10^{-7}$	$1.729 \cdot 10^{-7}$	0
$W^+W^-  o W^+W^-$	$-1.055 \cdot 10^{-16}$	$-1.055 \cdot 10^{-16}$	0	0.01286	0.01286	0
$W^+W^- \to \gamma\gamma$	$-1.414 \cdot 10^{-16}$	$-1.414 \cdot 10^{-16}$	0	0.118	0.118	0
$W^+W^- \to \gamma\gamma\gamma$	$-5.151 \cdot 10^{-7}$	$-5.151 \cdot 10^{-7}$	0	$1.447 \cdot 10^{-6}$	$1.447 \cdot 10^{-6}$	0
$\gamma W^+ \to z W^+$	$5.288 \cdot 10^{-16}$	$5.288 \cdot 10^{-16}$	0	0.5728	0.5728	0
$b\bar{b} \to \gamma \gamma$	$4.596 \cdot 10^{-24}$	$4.596 \cdot 10^{-24}$	0	$2.082 \cdot 10^{-6}$	$2.082 \cdot 10^{-6}$	0

$zz \to W^+W^-$	$-7.503 \cdot 10^{-15}$	$-7.503 \cdot 10^{-15}$	0	1.579	1.579	0
zz  o zz	$2.726 \cdot 10^{-17}$	$2.726 \cdot 10^{-17}$	0	0.2545	0.2545	0

#### 2.14 cHWtil

		interfere	ence		square	
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \rightarrow Hzz$	$-9.66 \cdot 10^{-7}$	$-9.66 \cdot 10^{-7}$	0	$2.931 \cdot 10^{-6}$	$2.931 \cdot 10^{-6}$	0
$HH \to W^+W^-$	$1.172 \cdot 10^{-15}$	$1.172 \cdot 10^{-15}$	0	9.115	9.115	0
$HH \to W^+W^-\gamma$	$3.989 \cdot 10^{-9}$	$3.989 \cdot 10^{-9}$	0	0.0003428	0.0003428	0
$HH \to W^+ \bar{t} b$	$4.498 \cdot 10^{-6}$	$4.498 \cdot 10^{-6}$	0	$8.323 \cdot 10^{-5}$	$8.323 \cdot 10^{-5}$	0
$HH  o W^+ e^- \bar{\nu}_e$	$-5.819 \cdot 10^{-7}$	$-5.819 \cdot 10^{-7}$	0	$6.171 \cdot 10^{-6}$	$6.171 \cdot 10^{-6}$	0
$HH \to W^- u \bar{d}$	$3.396 \cdot 10^{-6}$	$3.396 \cdot 10^{-6}$	0	$2.167 \cdot 10^{-5}$	$2.167 \cdot 10^{-5}$	0
$HH  o z\bar{b}b$	$-1.077 \cdot 10^{-9}$	$-1.077 \cdot 10^{-9}$	0	$3.67 \cdot 10^{-7}$	$3.67 \cdot 10^{-7}$	0
$HH \to z\nu_e\bar{\nu}_e$	$-4.278 \cdot 10^{-8}$	$-4.278 \cdot 10^{-8}$	0	$8.68 \cdot 10^{-8}$	$8.68 \cdot 10^{-8}$	0
$HH \to zc\bar{c}$	$3.829 \cdot 10^{-6}$	$3.829 \cdot 10^{-6}$	0	$1.384 \cdot 10^{-5}$	$1.384 \cdot 10^{-5}$	0
$HH \to z d\bar{d}$	$-1.821 \cdot 10^{-6}$	$-1.821 \cdot 10^{-6}$	0	$3.61 \cdot 10^{-5}$	$3.61 \cdot 10^{-5}$	0
$HH \rightarrow ze^+e^-$	$8.764 \cdot 10^{-6}$	$8.764 \cdot 10^{-6}$	0	0.0002508	0.0002508	0
$HH \to z t \bar{t}$	$4.634 \cdot 10^{-7}$	$4.634 \cdot 10^{-7}$	0	$7.338 \cdot 10^{-6}$	$7.338 \cdot 10^{-6}$	0
$HH \rightarrow zz$	$5.934 \cdot 10^{-16}$	$5.934 \cdot 10^{-16}$	0	2.652	2.652	0
$HW^+ \to \gamma t \bar{b}$	$-2.291 \cdot 10^{-7}$	$-2.291 \cdot 10^{-7}$	0	$1.422 \cdot 10^{-7}$	$1.422 \cdot 10^{-7}$	0
$HW^+ \rightarrow \gamma u \bar{d}$	$-1.47\cdot10^{-7}$	$-1.47 \cdot 10^{-7}$	0	$3.007 \cdot 10^{-7}$	$3.007 \cdot 10^{-7}$	0
$HW^+ \to u\bar{d}$	$2.2 \cdot 10^{-14}$	$2.2 \cdot 10^{-14}$	0	0.07602	0.07602	0
$HW^-  o \bar{t}b$	$-3.956 \cdot 10^{-5}$	$-3.956 \cdot 10^{-5}$	0	0.08004	0.08004	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$-8.152 \cdot 10^{-9}$	$-8.152 \cdot 10^{-9}$	0	$1.181 \cdot 10^{-7}$	$1.181 \cdot 10^{-7}$	0
$HW^-  o \mu^- \bar{\nu}_\mu$	$2.11 \cdot 10^{-12}$	$2.11 \cdot 10^{-12}$	0	0.0322	0.0322	0
$H\gamma  o b\bar{b}$	$5.316 \cdot 10^{-10}$	$5.316 \cdot 10^{-10}$	0	0.009012	0.009012	0
$H\gamma \to c\bar{c}$	$4.306 \cdot 10^{-10}$	$4.306 \cdot 10^{-10}$	0	0.01128	0.01128	0
$H\gamma \to d\bar{d}$	$-5.646 \cdot 10^{-16}$	$-5.646 \cdot 10^{-16}$	0	0.008947	0.008947	0

$H\gamma \to e^+e^-$	$4.293 \cdot 10^{-16}$	$4.293 \cdot 10^{-16}$	0	0.005519	0.005519	0
$H\gamma \to t\bar{t}$	0.0004188	0.0004188	0	0.01502	0.01502	0
$Hz \to \mu^+\mu^-$	$-1.924 \cdot 10^{-7}$	$-1.924 \cdot 10^{-7}$	0	0.007812	0.007812	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	$1.446 \cdot 10^{-19}$	$1.446 \cdot 10^{-19}$	0	0.007267	0.007267	0
$Hz \to b\bar{b}$	$-4.1\cdot10^{-7}$	$-4.1\cdot10^{-7}$	0	0.03334	0.03334	0
$Hz \to s\bar{s}$	$-3.427 \cdot 10^{-7}$	$-3.427 \cdot 10^{-7}$	0	0.03044	0.03044	0
$Hz \to t\bar{t}$	$1.179 \cdot 10^{-6}$	$1.179 \cdot 10^{-6}$	0	0.02563	0.02563	0
$Hz \to u\bar{u}$	$6.033 \cdot 10^{-7}$	$6.033 \cdot 10^{-7}$	0	0.02811	0.02811	0
$W^+W^- \to Hb\bar{b}$	$2.929 \cdot 10^{-7}$	$2.929 \cdot 10^{-7}$	0	$1.545 \cdot 10^{-7}$	$1.545 \cdot 10^{-7}$	0
$W^+W^- \to H c \bar c$	$-2.556 \cdot 10^{-9}$	$-2.556 \cdot 10^{-9}$	0	$1.018 \cdot 10^{-8}$	$1.018 \cdot 10^{-8}$	0
$W^+W^- \to H d\bar{d}$	$-7.2 \cdot 10^{-8}$	$-7.2 \cdot 10^{-8}$	0	$4.361 \cdot 10^{-7}$	$4.361 \cdot 10^{-7}$	0
$W^+W^-  o H t \bar t$	$1.214 \cdot 10^{-6}$	$1.214 \cdot 10^{-6}$	0	$1.599 \cdot 10^{-5}$	$1.599 \cdot 10^{-5}$	0
$W^+W^-  o W^+W^-$	$6.076 \cdot 10^{-15}$	$6.076 \cdot 10^{-15}$	0	1.963	1.963	0
$W^+W^- \to \gamma\gamma$	$2.827 \cdot 10^{-18}$	$2.827 \cdot 10^{-18}$	0	0.02279	0.02279	0
$W^+W^- \to \gamma\gamma\gamma$	$-9.449 \cdot 10^{-10}$	$-9.449 \cdot 10^{-10}$	0	$3.93 \cdot 10^{-9}$	$3.93 \cdot 10^{-9}$	0
$\gamma W^+ \to z W^+$	$3.996 \cdot 10^{-16}$	$3.996 \cdot 10^{-16}$	0	0.06202	0.06202	0
$b\bar{b}  o \gamma\gamma$	$-2.441 \cdot 10^{-25}$	$-2.441 \cdot 10^{-25}$	0	$5.97 \cdot 10^{-7}$	$5.97\cdot10^{-7}$	0
$zz \to W^+W^-$	$1.199 \cdot 10^{-14}$	$1.199 \cdot 10^{-14}$	0	1.434	1.434	0
$zz \to zz$	$-5.846 \cdot 10^{-18}$	$-5.846 \cdot 10^{-18}$	0	0.8141	0.8141	0

# 2.15 cHbq

		interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to z\bar{b}b$	$-1.047 \cdot 10^{-6}$	$-1.047 \cdot 10^{-6}$	0	$1.44 \cdot 10^{-5}$	$1.44 \cdot 10^{-5}$	0		
$Hz \to b\bar{b}$	-0.04058	-0.04058	0	1.026	1.026	0		
$W^+W^-  o Hbar b$	$-4.703 \cdot 10^{-8}$	$-4.703 \cdot 10^{-8}$	0	$2.035 \cdot 10^{-7}$	$2.035 \cdot 10^{-7}$	0		
$b\bar{b} \to \mu^+ \mu^-$	$-3.081 \cdot 10^{-5}$	$-3.081 \cdot 10^{-5}$	0	$2.831 \cdot 10^{-6}$	$2.831 \cdot 10^{-6}$	0		
$b ar b  o  u_e ar  u_e$	$-2.415 \cdot 10^{-5}$	$-2.415 \cdot 10^{-5}$	0	$4.929 \cdot 10^{-6}$	$4.929 \cdot 10^{-6}$	0		

$b\bar{b}  o b\bar{b}$	$0.0003272 \qquad 0.0003272$	0	$0.000243 \qquad 0.000243 \qquad 0$
$b\bar{b} \to d\bar{d}$	$-7.073 \cdot 10^{-5}  -7.073 \cdot 10^{-5}$	0	$3.6 \cdot 10^{-5}$ $3.6 \cdot 10^{-5}$ 0
$b\bar{b} \to t\bar{t}$	$-5.799 \cdot 10^{-5}  -5.799 \cdot 10^{-5}$	0	$6.021 \cdot 10^{-6}  6.021 \cdot 10^{-6} \qquad 0$
$b\bar{b} \to u\bar{u}$	$4.199 \cdot 10^{-5}$ $4.199 \cdot 10^{-5}$	0	$2.162 \cdot 10^{-5}$ $2.162 \cdot 10^{-5}$ 0

## 2.16 cHd

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to z d\bar{d}$	$-1.121 \cdot 10^{-7}$	$-1.121 \cdot 10^{-7}$	0	$1.166 \cdot 10^{-7}$	$1.166 \cdot 10^{-7}$	0	
$Hz \to s\bar{s}$	-0.04266	-0.04266	0	1.047	1.047	0	
$W^+W^- \to H d\bar{d}$	$-2.212 \cdot 10^{-8}$	$-2.212 \cdot 10^{-8}$	0	$2.559 \cdot 10^{-7}$	$2.559 \cdot 10^{-7}$	0	
$b\bar{b}  o d\bar{d}$	$-2.527 \cdot 10^{-5}$	$-2.527 \cdot 10^{-5}$	0	$4.35 \cdot 10^{-6}$	$4.35 \cdot 10^{-6}$	0	
$d\bar{d} \to c\bar{c}$	$-2.261 \cdot 10^{-5}$	$-2.261 \cdot 10^{-5}$	0	$9.195 \cdot 10^{-6}$	$9.195 \cdot 10^{-6}$	0	
$d\bar{d} \rightarrow e^+e^-$	$4.354 \cdot 10^{-5}$	$4.354 \cdot 10^{-5}$	0	$5.34 \cdot 10^{-6}$	$5.34 \cdot 10^{-6}$	0	
$d\bar{d} \to s\bar{s}$	$-5.106 \cdot 10^{-5}$	$-5.106 \cdot 10^{-5}$	0	$1.221 \cdot 10^{-5}$	$1.221 \cdot 10^{-5}$	0	
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$-8.485 \cdot 10^{-5}$	$-8.485 \cdot 10^{-5}$	0	$1.731 \cdot 10^{-5}$	$1.731 \cdot 10^{-5}$	0	
$s\bar{s} \to s\bar{s}$	0.000441	0.000441	0	0.0002577	0.0002577	0	
$t\bar{t} \to d\bar{d}$	$2.298 \cdot 10^{-5}$	$2.298 \cdot 10^{-5}$	0	$1.484 \cdot 10^{-5}$	$1.484 \cdot 10^{-5}$	0	
$t\bar{t} \to s\bar{s}$	$-5.989 \cdot 10^{-6}$	$-5.989 \cdot 10^{-6}$	0	$1.005 \cdot 10^{-5}$	$1.005 \cdot 10^{-5}$	0	
$u\bar{d} \to u\bar{d}$	$8.288 \cdot 10^{-5}$	$8.288 \cdot 10^{-5}$	0	$3.476 \cdot 10^{-5}$	$3.476 \cdot 10^{-5}$	0	

## 2.17 cHe

		interfer	rence	square
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  & \verb mod2  & 1-\verb mod2/mod1 $
$HH \rightarrow ze^+e^-$	$-9.222 \cdot 10^{-8}$	$-9.222 \cdot 10^{-8}$	0	$2.021 \cdot 10^{-7}$ $2.021 \cdot 10^{-7}$ 0
$Hz \to \mu^+\mu^-$	-0.02403	-0.02403	0	$0.1965 \qquad 0.1965 \qquad 0$
$\mu^+\mu^- \to \tau^+\tau^-$	$-4.93 \cdot 10^{-5}$	$-4.93 \cdot 10^{-5}$	0	$2.441 \cdot 10^{-5}$ $2.441 \cdot 10^{-5}$ 0

$b\bar{b} \to \mu^+ \mu^-$	$-4.165 \cdot 10^{-5}$ $-4.165$	$\cdot 10^{-5}$ 0	$6.322 \cdot 10^{-6}$	$6.322 \cdot 10^{-6}$	0
$c\bar{c} \to \mu^+ \mu^-$	$2.356 \cdot 10^{-6}$ $2.356 \cdot$	$10^{-6}$ 0	$4.25 \cdot 10^{-6}$	$4.25\cdot10^{-6}$	0
$d\bar{d} \to e^+e^-$	$-2.688 \cdot 10^{-5}$ $-2.688$	$\cdot 10^{-5}$ 0	$2.477 \cdot 10^{-6}$	$2.477 \cdot 10^{-6}$	0
$e^+\nu_\mu \to e^+\nu_\mu$	-0.01979 $-0.01$	.979 0	0.001346	0.001346	0
$e^+\nu_e \to e^+\nu_e$	$-0.002877 \qquad -0.008$	2877 0	0.0001957	0.0001957	0
$e^+\tau^- \to e^+\tau^-$	$0.002197 \qquad 0.002$	197 0	0.0001214	0.0001214	0
$e^+e^-  o \mu^+\mu^-$	$0.0002179 \qquad 0.0002$	2179 0	$2.489 \cdot 10^{-5}$	$2.489 \cdot 10^{-5}$	0
$e^+e^- \rightarrow e^+e^-$	0.002254 $0.002$	254 0	$8.497 \cdot 10^{-5}$	$8.497 \cdot 10^{-5}$	0
$t\bar{t} \to \tau^+ \tau^-$	$-3.684 \cdot 10^{-5}$ $-3.684$	$\cdot 10^{-5}$ 0	$2.325 \cdot 10^{-6}$	$2.325 \cdot 10^{-6}$	0

# 2.18 cHj1

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$	
$HH \to zc\bar{c}$	$-1.991 \cdot 10^{-6}$	$-1.991 \cdot 10^{-6}$	0	$4.79 \cdot 10^{-7}$	$4.79 \cdot 10^{-7}$	0	
$HH \to z d\bar{d}$	$1.648 \cdot 10^{-6}$	$1.648 \cdot 10^{-6}$	0	$2.567 \cdot 10^{-6}$	$2.567 \cdot 10^{-6}$	0	
$Hz \to s\bar{s}$	0.245	0.245	0	1.049	1.049	0	
$Hz \to u\bar{u}$	-0.1639	-0.1639	0	0.8501	0.8501	0	
$W^+W^-  o Hc\bar{c}$	$-9.762 \cdot 10^{-6}$	$-9.762 \cdot 10^{-6}$	0	$3.642 \cdot 10^{-7}$	$3.642 \cdot 10^{-7}$	0	
$W^+W^- \to H d\bar{d}$	$7.759 \cdot 10^{-7}$	$7.759 \cdot 10^{-7}$	0	$5.126 \cdot 10^{-7}$	$5.126 \cdot 10^{-7}$	0	
$b\bar{b}  o d\bar{d}$	$3.6 \cdot 10^{-5}$	$3.6 \cdot 10^{-5}$	0	$1.931 \cdot 10^{-6}$	$1.931 \cdot 10^{-6}$	0	
$b\bar{b} \to u\bar{u}$	$-2.664 \cdot 10^{-5}$	$-2.664 \cdot 10^{-5}$	0	$2.411 \cdot 10^{-6}$	$2.411 \cdot 10^{-6}$	0	
$c\bar{c} \to \mu^+ \mu^-$	-0.0001554	-0.0001554	0	$3.711 \cdot 10^{-6}$	$3.711 \cdot 10^{-6}$	0	
$d\bar{d} \to c\bar{c}$	$1.858 \cdot 10^{-5}$	$1.858 \cdot 10^{-5}$	0	$3.937 \cdot 10^{-6}$	$3.937 \cdot 10^{-6}$	0	
$d\bar{d} \rightarrow e^+e^-$	0.0001692	0.0001692	0	$4.282 \cdot 10^{-6}$	$4.282 \cdot 10^{-6}$	0	
$d\bar{d}  o s\bar{s}$	0.0004873	0.0004873	0	$3.172 \cdot 10^{-5}$	$3.172 \cdot 10^{-5}$	0	
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	0.0002714	0.0002714	0	$9.661 \cdot 10^{-6}$	$9.661 \cdot 10^{-6}$	0	
$s\bar{s} \to s\bar{s}$	0.953	0.953	0	0.1263	0.1263	0	
$t\bar{t} \to c\bar{c}$	-0.0008162	-0.0008162	0	$2.162 \cdot 10^{-5}$	$2.162 \cdot 10^{-5}$	0	

$t\bar{t}  o d\bar{d}$	$4.91 \cdot 10^{-5}$	$4.91 \cdot 10^{-5}$	0	$5.099 \cdot 10^{-6}  5.099 \cdot 10^{-6}$	0
$t\bar{t}  o s\bar{s}$	0.0009483	0.0009483	0	$2.668 \cdot 10^{-5}$ $2.668 \cdot 10^{-5}$	0
$u\bar{d} \to u\bar{d}$	-0.002664	-0.002664	0	$0.0002113 \qquad 0.0002113$	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	-0.0001007	-0.0001007	0	$4.343 \cdot 10^{-6}$ $4.343 \cdot 10^{-6}$	0
$u\bar{u} \to c\bar{c}$	$8.67 \cdot 10^{-5}$	$8.67 \cdot 10^{-5}$	0	$1.142 \cdot 10^{-5}$ $1.142 \cdot 10^{-5}$	0
$u\bar{u} \to u\bar{u}$	0.0347	0.0347	0	$0.0006106 \qquad 0.0006106$	0

# 2.19 cHj3

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
$HH \to W^- u \bar{d}$	$5.51\cdot10^{-5}$	$5.51\cdot10^{-5}$	0	0.0001645	0.0001645	0	
$HH \to z c \bar{c}$	$1.556 \cdot 10^{-5}$	$1.556 \cdot 10^{-5}$	0	$1.257 \cdot 10^{-5}$	$1.257 \cdot 10^{-5}$	0	
$HH \to z d\bar{d}$	$9.192 \cdot 10^{-6}$	$9.192 \cdot 10^{-6}$	0	$2.481 \cdot 10^{-5}$	$2.481 \cdot 10^{-5}$	0	
$HW^+ \to \gamma u \bar{d}$	$2.025 \cdot 10^{-7}$	$2.025 \cdot 10^{-7}$	0	$1.399 \cdot 10^{-7}$	$1.399 \cdot 10^{-7}$	0	
$HW^+  o u \bar d$	0.1458	0.1458	0	0.6841	0.6841	0	
$Hz \to s\bar{s}$	0.07657	0.07657	0	0.3278	0.3278	0	
$Hz \to u\bar{u}$	0.2022	0.2022	0	1.049	1.049	0	
$W^+W^- \to H c \bar c$	$1.71 \cdot 10^{-6}$	$1.71 \cdot 10^{-6}$	0	$1.095 \cdot 10^{-6}$	$1.095 \cdot 10^{-6}$	0	
$W^+W^-  o Hd\bar{d}$	$-6.81 \cdot 10^{-6}$	$-6.81 \cdot 10^{-6}$	0	$9.093 \cdot 10^{-6}$	$9.093 \cdot 10^{-6}$	0	
$\bar{b}t \to \bar{d}u$	0.003235	0.003235	0	$9.807 \cdot 10^{-5}$	$9.807 \cdot 10^{-5}$	0	
$b\bar{b} \to d\bar{d}$	$6.05\cdot10^{-5}$	$6.05 \cdot 10^{-5}$	0	$2.625 \cdot 10^{-6}$		0	
$b\bar{b} \to u\bar{u}$	0.0009105	0.0009105	0	$3.138 \cdot 10^{-5}$	$3.138 \cdot 10^{-5}$	0	
$c\bar{c} \to \mu^+ \mu^-$	$-4.55 \cdot 10^{-5}$	$-4.55 \cdot 10^{-5}$	0	$4.31 \cdot 10^{-6}$	$4.31 \cdot 10^{-6}$	0	
$c\bar{s} \to \tau^+ \nu_{\tau}$	0.0003372	0.0003372	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0	
$d\bar{d} \to c\bar{c}$	$8.191 \cdot 10^{-5}$	$8.191 \cdot 10^{-5}$	0	$8.565 \cdot 10^{-6}$	$8.565 \cdot 10^{-6}$	0	
$d\bar{d} \to e^+e^-$	$4.612 \cdot 10^{-5}$	$4.612 \cdot 10^{-5}$	0	$3.178 \cdot 10^{-6}$	$3.178 \cdot 10^{-6}$	0	
$d\bar{d} \to s\bar{s}$	0.0006919	0.0006919	0	$4.482 \cdot 10^{-5}$	$4.482 \cdot 10^{-5}$	0	
$s\bar{s} \to \nu_{ au} \bar{\nu}_{ au}$	0.000287	0.000287	0	$1.022 \cdot 10^{-5}$	$1.022 \cdot 10^{-5}$	0	

$s\bar{s} \to s\bar{s}$	-0.0589	-0.0589	0	0.001558	0.001558	0
$t\bar{t} \to c\bar{c}$	0.0003066	0.0003066	0	$9.796 \cdot 10^{-6}$	$9.796 \cdot 10^{-6}$	0
$t\bar{t} \to d\bar{d}$	0.0001446	0.0001446	0	$5.901 \cdot 10^{-6}$	$5.901 \cdot 10^{-6}$	0
$t\bar{t} \to s\bar{s}$	0.0007042	0.0007042	0	$1.997 \cdot 10^{-5}$	$1.997 \cdot 10^{-5}$	0
$u\bar{d} \to \mu^+ \nu_\mu$	0.0006861	0.0006861	0	$2.08 \cdot 10^{-5}$	$2.08 \cdot 10^{-5}$	0
$u\bar{d} \rightarrow c\bar{s}$	0.0004269	0.0004269	0	$2.588 \cdot 10^{-5}$	$2.588 \cdot 10^{-5}$	0
$u\bar{d} \to u\bar{d}$	$4.258 \cdot 10^{-5}$	$4.258 \cdot 10^{-5}$	0	$8.306 \cdot 10^{-6}$	$8.306 \cdot 10^{-6}$	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	0.0004392	0.0004392	0	$1.894 \cdot 10^{-5}$	$1.894 \cdot 10^{-5}$	0
$u\bar{u} \to c\bar{c}$	0.001874	0.001874	0	0.0001004	0.0001004	0
$u\bar{u} \rightarrow u\bar{u}$	-0.003741	-0.003741	0	$5.504 \cdot 10^{-5}$	$5.504 \cdot 10^{-5}$	0

## 2.20 cHl1

		ence		square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH \to z \nu_e \bar{\nu}_e$	$-4.596 \cdot 10^{-6}$	$-4.596 \cdot 10^{-6}$	0	$7.047 \cdot 10^{-6}$	$7.047 \cdot 10^{-6}$	0
$HH \rightarrow ze^+e^-$	$7.438 \cdot 10^{-7}$	$7.438 \cdot 10^{-7}$	0	$2.083 \cdot 10^{-6}$	$2.083 \cdot 10^{-6}$	0
$Hz \to \mu^+\mu^-$	0.04171	0.04171	0	0.2743	0.2743	0
$Hz \to \nu_{ au} \bar{\nu}_{ au}$	-0.05062	-0.05062	0	0.1845	0.1845	0
$\mu^+\mu^- \to \tau^+\tau^-$	0.0008007	0.0008007	0	$3.613 \cdot 10^{-5}$	$3.613 \cdot 10^{-5}$	0
$\nu_{ au} \bar{\nu}_{ au}  o \nu_{ au} \bar{\nu}_{ au}$	-0.0002081	-0.0002081	0	$1.262 \cdot 10^{-5}$	$1.262 \cdot 10^{-5}$	0
$\nu_e \bar{\nu}_e  o  u_\mu \bar{\nu}_\mu$	-0.0007126	-0.0007126	0	$4.32 \cdot 10^{-5}$	$4.32 \cdot 10^{-5}$	0
$b\bar{b}  o \mu^+ \mu^-$	0.0004007	0.0004007	0	$1.476 \cdot 10^{-5}$	$1.476 \cdot 10^{-5}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	-0.0003766	-0.0003766	0	$1.141 \cdot 10^{-5}$	$1.141 \cdot 10^{-5}$	0
$c\bar{c} \to \mu^+ \mu^-$	0.0002191	0.0002191	0	$5.848 \cdot 10^{-6}$	$5.848 \cdot 10^{-6}$	0
$d\bar{d} \to e^+e^-$	0.0001388	0.0001388	0	$5.337 \cdot 10^{-6}$	$5.337 \cdot 10^{-6}$	0
$e^+\nu_\mu \to e^+\nu_\mu$	-0.0004503	-0.0004503	0	$1.365 \cdot 10^{-5}$	$1.365 \cdot 10^{-5}$	0
$e^+\nu_e \to e^+\nu_e$	0.004382	0.004382	0	0.0007745	0.0007745	0
$e^+\tau^- \to e^+\tau^-$	$6.332 \cdot 10^{-5}$	$6.332 \cdot 10^{-5}$	0	0.0003657	0.0003657	0
$e^+e^- \to \mu^+\mu^-$	0.0008907	0.0008907	0	$3.813 \cdot 10^{-5}$	$3.813 \cdot 10^{-5}$	0

$e^+e^- \rightarrow e^+e^-$	0.02876	0.02876	0	0.004197	0.004197	0
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$-1.75 \cdot 10^{-5}$	$-1.75 \cdot 10^{-5}$	0	$5.303 \cdot 10^{-7}$	$5.303 \cdot 10^{-7}$	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$-5.2 \cdot 10^{-5}$	$-5.2 \cdot 10^{-5}$	0	$1.576 \cdot 10^{-6}$	$1.576 \cdot 10^{-6}$	0
$t\bar{t} \rightarrow \tau^+ \tau^-$	0.0003045	0.0003045	0	$7.564 \cdot 10^{-6}$	$7.564 \cdot 10^{-6}$	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	-0.0001642	-0.0001642	0	$4.977 \cdot 10^{-6}$	$4.977 \cdot 10^{-6}$	0

# 2.21 cHl3

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
HH  o HH	-0.05346	-0.05346	0	0.003241	0.003241	0	
$HH \to HHH$	$-3.58 \cdot 10^{-8}$	$-3.58 \cdot 10^{-8}$	0	$3.256 \cdot 10^{-9}$	$3.256 \cdot 10^{-9}$	0	
$HH  o H au^+ au^-$	$-7.532 \cdot 10^{-12}$	$-7.532 \cdot 10^{-12}$	0	$6.85 \cdot 10^{-13}$	$6.85 \cdot 10^{-13}$	0	
$HH  o Hbar{b}$	$-9.766 \cdot 10^{-11}$	$-9.766 \cdot 10^{-11}$	0	$8.88 \cdot 10^{-12}$	$8.88 \cdot 10^{-12}$	0	
$HH \to Hs\bar{s}$	$-1.295 \cdot 10^{-12}$	$-1.295 \cdot 10^{-12}$	0	$1.178 \cdot 10^{-13}$	$1.178 \cdot 10^{-13}$	0	
$HH \to H t \bar t$	$-5.918 \cdot 10^{-6}$	$-5.918 \cdot 10^{-6}$	0	$5.382 \cdot 10^{-7}$	$5.382 \cdot 10^{-7}$	0	
$HH \to Hu\bar{u}$	$-7.13 \cdot 10^{-17}$	$-7.13 \cdot 10^{-17}$	0	$6.484 \cdot 10^{-18}$	$6.484 \cdot 10^{-18}$	0	
$HH \rightarrow Hzz$	$-1.117 \cdot 10^{-5}$	$-1.117 \cdot 10^{-5}$	0	$1.016 \cdot 10^{-6}$	$1.016 \cdot 10^{-6}$	0	
$HH \to W^+W^-$	-0.2485	-0.2485	0	0.01506	0.01506	0	
$HH  o W^+W^-\gamma$	$-6.879 \cdot 10^{-8}$	$-6.879 \cdot 10^{-8}$	0	$6.255 \cdot 10^{-9}$	$6.255 \cdot 10^{-9}$	0	
$HH \to W^+ \bar{t} b$	$-7.769 \cdot 10^{-7}$	$-7.769 \cdot 10^{-7}$	0	$7.065 \cdot 10^{-8}$	$7.065 \cdot 10^{-8}$	0	
$HH  o W^+ e^- \bar{\nu}_e$	$2.442 \cdot 10^{-6}$	$2.442 \cdot 10^{-6}$	0	$1.971 \cdot 10^{-6}$	$1.971 \cdot 10^{-6}$	0	
$HH \to W^- u \bar{d}$	$-2.466 \cdot 10^{-7}$	$-2.466 \cdot 10^{-7}$	0	$2.243 \cdot 10^{-8}$	$2.243 \cdot 10^{-8}$	0	
$HH \to z\bar{b}b$	$-2.798 \cdot 10^{-7}$	$-2.798 \cdot 10^{-7}$	0	$2.545 \cdot 10^{-8}$	$2.545 \cdot 10^{-8}$	0	
$HH \to z \nu_e \bar{\nu}_e$	$9.007 \cdot 10^{-6}$	$9.007 \cdot 10^{-6}$	0	$1.818 \cdot 10^{-6}$	$1.818 \cdot 10^{-6}$	0	
$HH \to zc\bar{c}$	$-4.834 \cdot 10^{-7}$	$-4.834 \cdot 10^{-7}$	0	$4.396 \cdot 10^{-8}$	$4.396 \cdot 10^{-8}$	0	
$HH \to z d\bar{d}$	$-3.072 \cdot 10^{-7}$	$-3.072 \cdot 10^{-7}$	0	$2.794 \cdot 10^{-8}$	$2.794 \cdot 10^{-8}$	0	
$HH \rightarrow ze^+e^-$	$7.052 \cdot 10^{-7}$	$7.052 \cdot 10^{-7}$	0	$2.269 \cdot 10^{-6}$	$2.269 \cdot 10^{-6}$	0	
$HH  o zt \bar t$	$-6.021 \cdot 10^{-6}$	$-6.021 \cdot 10^{-6}$	0	$5.475 \cdot 10^{-7}$	$5.475 \cdot 10^{-7}$	0	

$HH \rightarrow zz$	-7.767	-7.767	0	0.4709	0.4709	0
$HW^+ \to \gamma t \bar{b}$	$-2.766 \cdot 10^{-7}$	$-2.766 \cdot 10^{-7}$	0	$2.515 \cdot 10^{-8}$	$2.515 \cdot 10^{-8}$	0
$HW^+ \to \gamma u \bar{d}$	$-1.993 \cdot 10^{-9}$	$-1.993 \cdot 10^{-9}$	0	$1.812 \cdot 10^{-10}$	$1.812 \cdot 10^{-10}$	0
$HW^+ \to u\bar{d}$	-0.005554	-0.005554	0	0.0003367	0.0003367	0
$HW^- \to \bar{t}b$	-0.02381	-0.02381	0	0.001444	0.001444	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$1.259 \cdot 10^{-6}$	$1.259 \cdot 10^{-6}$	0	$5.686 \cdot 10^{-6}$	$5.686 \cdot 10^{-6}$	0
$HW^-  o \mu^- \bar{\nu}_{\mu}$	0.06678	0.06678	0	0.3092	0.3092	0
$H\gamma  o bar{b}$	$-2.625 \cdot 10^{-5}$	$-2.625 \cdot 10^{-5}$	0	$1.592 \cdot 10^{-6}$	$1.592 \cdot 10^{-6}$	0
$H\gamma \to c\bar{c}$	$-2.831 \cdot 10^{-5}$	$-2.831 \cdot 10^{-5}$	0	$1.716 \cdot 10^{-6}$	$1.716 \cdot 10^{-6}$	0
$H\gamma \to d\bar{d}$	$-2.805 \cdot 10^{-11}$	$-2.805 \cdot 10^{-11}$	0	$1.701 \cdot 10^{-12}$	$1.701 \cdot 10^{-12}$	0
$H\gamma \to e^+e^-$	$-1.333 \cdot 10^{-12}$	$-1.333 \cdot 10^{-12}$	0	$8.08 \cdot 10^{-14}$	$8.08 \cdot 10^{-14}$	0
$H\gamma \to t\bar{t}$	-0.2014	-0.2014	0	0.01221	0.01221	0
$Hz \to \mu^+\mu^-$	0.03809	0.03809	0	0.2497	0.2497	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	0.05125	0.05125	0	0.1837	0.1837	0
$Hz \to b\bar{b}$	-0.001263	-0.001263	0	$7.657 \cdot 10^{-5}$	$7.657 \cdot 10^{-5}$	0
$Hz \to s\bar{s}$	-0.0009094	-0.0009094	0	$5.513 \cdot 10^{-5}$	$5.513 \cdot 10^{-5}$	0
$Hz \to t\bar{t}$	-0.7089	-0.7089	0	0.04298	0.04298	0
$Hz \to u\bar{u}$	-0.002781	-0.002781	0	0.0001686	0.0001686	0
$W^+W^- \to H b \bar b$	$-1.636 \cdot 10^{-6}$	$-1.636 \cdot 10^{-6}$	0	$1.487 \cdot 10^{-7}$	$1.487 \cdot 10^{-7}$	0
$W^+W^- \to Hc\bar{c}$	$-2.532 \cdot 10^{-7}$	$-2.532 \cdot 10^{-7}$	0	$2.302 \cdot 10^{-8}$	$2.302 \cdot 10^{-8}$	0
$W^+W^- \to H d\bar{d}$	$-1.759 \cdot 10^{-6}$	$-1.759 \cdot 10^{-6}$	0	$1.6 \cdot 10^{-7}$	$1.6\cdot 10^{-7}$	0
$W^+W^- \to H t \bar t$	$-3.514 \cdot 10^{-5}$	$-3.514 \cdot 10^{-5}$	0	$3.196 \cdot 10^{-6}$	$3.196 \cdot 10^{-6}$	0
$W^+W^-  o W^+W^-$	-2.463	-2.463	0	0.1493	0.1493	0
$W^+W^- \to \gamma\gamma$	-0.06465	-0.06465	0	0.003919	0.003919	0
$W^+W^- \to \gamma\gamma\gamma$	$-4.032 \cdot 10^{-5}$	$-4.032 \cdot 10^{-5}$	0	$3.666 \cdot 10^{-6}$	$3.666 \cdot 10^{-6}$	0
$\bar{b}t \to \bar{d}u$	-0.0001246	-0.0001246	0	$7.553 \cdot 10^{-6}$	$7.553 \cdot 10^{-6}$	0
$\gamma W^+ \to z W^+$	-0.1526	-0.1526	0	0.009251	0.009251	0
$\mu^+\mu^- \to \tau^+\tau^-$	-0.001847	-0.001847	0	0.0001362	0.0001362	0
$ u_{\tau}\bar{\nu}_{\tau} \to \nu_{\tau}\bar{\nu}_{\tau} $	$-1.206 \cdot 10^{-22}$	$-1.206 \cdot 10^{-22}$	0	$2.25 \cdot 10^{-37}$	$2.25\cdot10^{-37}$	0

	$8.491 \cdot 10^{-20}$	$8.491 \cdot 10^{-20}$	0	$7.993 \cdot 10^{-37}$	$7.993 \cdot 10^{-37}$	0
$ u_e \bar{\nu}_e \rightarrow \nu_\mu \bar{\nu}_\mu $	$-2.349 \cdot 10^{-5}$	$-2.349 \cdot 10^{-5}$	0	$1.424 \cdot 10^{-6}$	$1.424 \cdot 10^{-6}$	0
$bb \rightarrow \gamma \gamma$			· ·			O
$b\bar{b} \to \mu^+\mu^-$	-0.000338	-0.000338	0	$1.197 \cdot 10^{-5}$	$1.197 \cdot 10^{-5}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	$-9.73 \cdot 10^{-5}$	$-9.73 \cdot 10^{-5}$	0	$2.949 \cdot 10^{-6}$	$2.949 \cdot 10^{-6}$	0
$bb \rightarrow bb$ _	-8.924	-8.924	0	0.7626	0.7626	0
$b\bar{b}  o d\bar{d}$	-0.00222	-0.00222	0	0.0001346	0.0001346	0
$b b \to t \bar t$	-0.08172	-0.08172	0	0.01132	0.01132	0
$b\bar{b} \to u\bar{u}$	-0.0007553	-0.0007553	0	$4.579 \cdot 10^{-5}$	$4.579 \cdot 10^{-5}$	0
$b\bar{t} \to e^- \bar{\nu}_e$	-0.0001559	-0.0001559	0	$4.727 \cdot 10^{-6}$	$4.727 \cdot 10^{-6}$	0
$c\bar{c}  o \mu^+\mu^-$	-0.0002551	-0.0002551	0	$1.567 \cdot 10^{-5}$	$1.567 \cdot 10^{-5}$	0
$c\bar{s} \to \tau^+ \nu_{\tau}$	-0.0003606	-0.0003606	0	$1.093 \cdot 10^{-5}$	$1.093 \cdot 10^{-5}$	0
$d\bar{d} \to c\bar{c}$	-0.001425	-0.001425	0	$8.641 \cdot 10^{-5}$	$8.641 \cdot 10^{-5}$	0
$d\bar{d} \to e^+e^-$	-0.0002711	-0.0002711	0	$9.73 \cdot 10^{-6}$	$9.73 \cdot 10^{-6}$	0
$d\bar{d}  o s\bar{s}$	-0.002705	-0.002705	0	0.000164	0.000164	0
$e^+\nu_\mu \to e^+\nu_\mu$	-0.001906	-0.001906	0	0.0008809	0.0008809	0
$e^+\nu_e \to \mu^+\nu_\mu$	$2.084 \cdot 10^{-20}$	$2.084 \cdot 10^{-20}$	0	$1.888 \cdot 10^{-37}$	$1.888 \cdot 10^{-37}$	0
$e^+\nu_e \to e^+\nu_e$	0.005791	0.005791	0	0.001005	0.001005	0
$e^+\tau^- \to e^+\tau^-$	-11.53	-11.53	0	0.7098	0.7098	0
$e^+e^- \rightarrow \mu^+\mu^-$	-0.001855	-0.001855	0	0.0001351	0.0001351	0
$e^+e^- \rightarrow e^+e^-$	-0.08546	-0.08546	0	0.006217	0.006217	0
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	-0.0003674	-0.0003674	0	$1.114\cdot10^{-5}$	$1.114\cdot10^{-5}$	0
$s\bar{s} \to s\bar{s}$	0.01221	0.01221	0	0.0001112	0.0001112	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	-0.0003271	-0.0003271	0	$9.915 \cdot 10^{-6}$	$9.915 \cdot 10^{-6}$	0
$t\bar{t} \to \tau^+ \tau^-$	-0.0003515	-0.0003515	0	$1.988 \cdot 10^{-5}$	$1.988 \cdot 10^{-5}$	0
$t\bar{t} \to c\bar{c}$	-0.001721	-0.001721	0	0.0001043	0.0001043	0
$t\bar{t}  o d\bar{d}$	$-4.301 \cdot 10^{-5}$	$-4.301 \cdot 10^{-5}$	0	$2.607 \cdot 10^{-6}$	$2.607 \cdot 10^{-6}$	0
$t\bar{t} \to s\bar{s}$	-0.0006017	-0.0006017	0	$3.648 \cdot 10^{-5}$	$3.648 \cdot 10^{-5}$	0
$t\bar{t} \to t\bar{t}$	0.09906	0.09906	0	0.01418	0.01418	0
$u\bar{d} \to \mu^+ \nu_\mu$	-0.001731	-0.001731	0	$5.246 \cdot 10^{-5}$	$5.246 \cdot 10^{-5}$	0

$u\bar{d} \to c\bar{s}$	-0.0039	-0.0039	0	0.0002365	0.0002365	0
$u\bar{d} \to u\bar{d}$	0.01263	0.01263	0	0.0005895	0.0005895	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	$-7.998 \cdot 10^{-5}$	$-7.998 \cdot 10^{-5}$	0	$2.424 \cdot 10^{-6}$	$2.424 \cdot 10^{-6}$	0
$u\bar{u} \to c\bar{c}$	-0.002022	-0.002022	0	0.0001226	0.0001226	0
$u\bar{u} \to u\bar{u}$	0.004592	0.004592	0	$4.568 \cdot 10^{-5}$	$4.568 \cdot 10^{-5}$	0
$zz \to W^+W^-$	-58.24	-58.24	0	3.531	3.531	0
$zz \rightarrow zz$	-0.01968	-0.01968	0	0.001193	0.001193	0

#### 2.22 cHt

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to z t \bar t$	$-2.684 \cdot 10^{-5}$	$-2.684 \cdot 10^{-5}$	0	$3.379 \cdot 10^{-5}$	$3.379 \cdot 10^{-5}$	0		
$Hz \to t\bar{t}$	-2.245	-2.245	0	1.49	1.49	0		
$W^+W^-  o H t \bar t$	$3.873 \cdot 10^{-6}$	$3.873 \cdot 10^{-6}$	0	$9.561 \cdot 10^{-7}$	$9.561 \cdot 10^{-7}$	0		
$b\bar{b} \to t\bar{t}$	-0.0006878	-0.0006878	0	$3.612 \cdot 10^{-6}$	$3.612 \cdot 10^{-6}$	0		
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$6.291 \cdot 10^{-5}$	$6.291 \cdot 10^{-5}$	0	$8.072 \cdot 10^{-6}$	$8.072 \cdot 10^{-6}$	0		
$t\bar{t} \to \tau^+ \tau^-$	0.0001655	0.0001655	0	$4.114 \cdot 10^{-6}$	$4.114 \cdot 10^{-6}$	0		
$t\bar{t} \to c\bar{c}$	0.0001828	0.0001828	0	$5.666 \cdot 10^{-6}$	$5.666 \cdot 10^{-6}$	0		
$t\bar{t} \to d\bar{d}$	$9.022 \cdot 10^{-5}$	$9.022 \cdot 10^{-5}$	0	$3.372 \cdot 10^{-5}$	$3.372 \cdot 10^{-5}$	0		
$t\bar{t} \to s\bar{s}$	$6.805 \cdot 10^{-5}$	$6.805 \cdot 10^{-5}$	0	$2.734 \cdot 10^{-5}$	$2.734 \cdot 10^{-5}$	0		
$t\bar{t} \to t\bar{t}$	-0.1209	-0.1209	0	0.0096	0.0096	0		

## 2.23 cHtbIm

	interference				square			
	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to W^+ \bar{t} b$	$2.544 \cdot 10^{-8}$	$2.544 \cdot 10^{-8}$	0	$8.922 \cdot 10^{-6}$	$8.922 \cdot 10^{-6}$	0		
$HW^+ \to \gamma t \bar{b}$	$-7.814 \cdot 10^{-9}$	$-7.814 \cdot 10^{-9}$	0	$1.243 \cdot 10^{-7}$	$1.243 \cdot 10^{-7}$	0		

$HW^- \to \bar{t}b$	$-7.952 \cdot 10^{-6}$	$-7.952 \cdot 10^{-6}$	0	0.2799	0.2799	0
$W^+W^- \to H b \bar b$	$1.952 \cdot 10^{-8}$	$1.952 \cdot 10^{-8}$	0	$7.624 \cdot 10^{-7}$	$7.624 \cdot 10^{-7}$	0
$W^+W^- \to H t \bar t$	$6.247 \cdot 10^{-9}$	$6.247 \cdot 10^{-9}$	0	$1.597 \cdot 10^{-9}$	$1.597 \cdot 10^{-9}$	0
$\bar{b}t \to \bar{d}u$	$9.087 \cdot 10^{-22}$	$9.087 \cdot 10^{-22}$	0	$1.259 \cdot 10^{-5}$	$1.259 \cdot 10^{-5}$	0
$b\bar{b}  o t\bar{t}$	$-1.581 \cdot 10^{-21}$	$-1.393 \cdot 10^{-21}$	0.119	0.05123	0.05123	0
$b\bar{t} \to e^- \bar{\nu}_e$	$-1.841 \cdot 10^{-23}$	$-1.841 \cdot 10^{-23}$	0	$1.342 \cdot 10^{-5}$	$1.342 \cdot 10^{-5}$	0

## 2.24 cHtbRe

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH  o W^+ \bar t b$	$-4.021 \cdot 10^{-6}$	$-4.021 \cdot 10^{-6}$	0	$3.366 \cdot 10^{-5}$	$3.366 \cdot 10^{-5}$	0		
$HW^+ \to \gamma t \bar{b}$	$-8.906 \cdot 10^{-8}$	$-8.906 \cdot 10^{-8}$	0	$4.379 \cdot 10^{-7}$	$4.379 \cdot 10^{-7}$	0		
$HW^-  o \bar{t}b$	-0.04698	-0.04698	0	0.4748	0.4748	0		
$W^+W^- \to Hb\bar{b}$	$-7.407 \cdot 10^{-8}$	$-7.407 \cdot 10^{-8}$	0	$6.31 \cdot 10^{-7}$	$6.31 \cdot 10^{-7}$	0		
$W^+W^-  o H t \bar t$	$8.745 \cdot 10^{-8}$	$8.745 \cdot 10^{-8}$	0	$1.596 \cdot 10^{-9}$	$1.596 \cdot 10^{-9}$	0		
$\bar{b}t \to \bar{d}u$	$-2.016 \cdot 10^{-6}$	$-2.016 \cdot 10^{-6}$	0	$4.12 \cdot 10^{-5}$	$4.12 \cdot 10^{-5}$	0		
$b\bar{b}  o t\bar{t}$	-0.0001035	-0.0001035	0	0.0006699	0.0006699	0		
$b\bar{t} \to e^- \bar{\nu}_e$	$-6.719 \cdot 10^{-7}$	$-6.719 \cdot 10^{-7}$	0	$9.402 \cdot 10^{-6}$	$9.402 \cdot 10^{-6}$	0		

## 2.25 cHu

		interfe	erence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to z c \bar{c}$	$6.604 \cdot 10^{-6}$	$6.604 \cdot 10^{-6}$	0	$1.262 \cdot 10^{-5}$	$1.262 \cdot 10^{-5}$	0		
$Hz \to u\bar{u}$	0.08548	0.08548	0	1.049	1.049	0		
$W^+W^-  o Hc\bar{c}$	$3.642 \cdot 10^{-8}$	$3.642 \cdot 10^{-8}$	0	$4.196 \cdot 10^{-8}$	$4.196 \cdot 10^{-8}$	0		
$b\bar{b} \to u\bar{u}$	$5.092 \cdot 10^{-5}$	$5.092 \cdot 10^{-5}$	0	$3.336 \cdot 10^{-6}$	$3.336 \cdot 10^{-6}$	0		
$c\bar{c} \to \mu^+ \mu^-$	-0.0001158	-0.0001158	0	$6.656 \cdot 10^{-6}$	$6.656 \cdot 10^{-6}$	0		

$d\bar{d} \to c\bar{c}$	$0.0001531 \qquad 0.0001531$	0	$3.914 \cdot 10^{-5}  3.914 \cdot 10^{-5}$	)
$t\bar{t} \to c\bar{c}$	$1.114 \cdot 10^{-5}$ $1.114 \cdot 10^{-5}$	0	$1.026 \cdot 10^{-5}$ $1.026 \cdot 10^{-5}$ 0	)
$u\bar{d} \to u\bar{d}$	$0.0001948 \qquad 0.0001948$	0	$5.143 \cdot 10^{-5}  5.143 \cdot 10^{-5}$	)
$u\bar{u} \to \nu_e \bar{\nu}_e$	$2.344 \cdot 10^{-6}$ $2.344 \cdot 10^{-6}$	0	$2.391 \cdot 10^{-7}  2.391 \cdot 10^{-7}$	)
$u\bar{u} \to c\bar{c}$	$0.0003837 \qquad 0.0003837$	0	$1.948 \cdot 10^{-5}$ $1.948 \cdot 10^{-5}$ 0	)
$u\bar{u} \to u\bar{u}$	-0.002344  -0.002344	0	0.0001739  0.0001739  0	)

## 2.26 cHudIm

		interfere		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$HH \to W^- u \bar{d}$	$-3.941 \cdot 10^{-25}$	$-3.941 \cdot 10^{-25}$	$-1.32 \cdot 10^{-6}$	$3.015 \cdot 10^{-25}$	$3.015 \cdot 10^{-25}$	$-2.686 \cdot 10^{-6}$	
$HW^+ \to \gamma u \bar{d}$	$-5.288 \cdot 10^{-25}$	$-5.288 \cdot 10^{-25}$	$-1.324 \cdot 10^{-6}$	$9.195 \cdot 10^{-27}$	$9.195 \cdot 10^{-27}$	$-2.675 \cdot 10^{-6}$	
$HW^+  o u \bar d$	$3.762 \cdot 10^{-23}$	$3.762 \cdot 10^{-23}$	$-1.329 \cdot 10^{-6}$	$2.63 \cdot 10^{-20}$	$2.63 \cdot 10^{-20}$	$-2.7\cdot10^{-6}$	
$W^+W^- \to H c \bar c$	$-1.762 \cdot 10^{-18}$	$-1.762 \cdot 10^{-18}$	$4.54 \cdot 10^{-7}$	$2.23 \cdot 10^{-24}$	$2.23 \cdot 10^{-24}$	$9.416 \cdot 10^{-7}$	
$W^+W^-  o Hd\bar{d}$	$2.07 \cdot 10^{-26}$	$2.07 \cdot 10^{-26}$	$-1.352 \cdot 10^{-6}$	$1.245 \cdot 10^{-35}$	$1.245 \cdot 10^{-35}$	$-2.651 \cdot 10^{-6}$	
$\bar{b}t \to \bar{d}u$	$1.466 \cdot 10^{-37}$	$1.888 \cdot 10^{-37}$	-0.2874	$3.301 \cdot 10^{-25}$	$3.302 \cdot 10^{-25}$	$-2.665 \cdot 10^{-6}$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$2.884 \cdot 10^{-31}$	$3.468 \cdot 10^{-31}$	-0.2025	$1.193 \cdot 10^{-16}$	$1.193 \cdot 10^{-16}$	$9.219 \cdot 10^{-7}$	
$u\bar{d} \to \mu^+ \nu_\mu$	$4.035 \cdot 10^{-39}$	$1.124 \cdot 10^{-39}$	0.7214	$3.859 \cdot 10^{-25}$	$3.859 \cdot 10^{-25}$	$-2.669 \cdot 10^{-6}$	
$u\bar{d} \to c\bar{s}$	$-5.478 \cdot 10^{-32}$	$-8.217 \cdot 10^{-32}$	-0.5	$4.439 \cdot 10^{-16}$	$4.439 \cdot 10^{-16}$	$9.461 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$-8.19 \cdot 10^{-37}$	$-8.146 \cdot 10^{-37}$	0.005311	$4.447 \cdot 10^{-24}$	$4.447 \cdot 10^{-24}$	$-2.653 \cdot 10^{-6}$	

## 2.27 cHudRe

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to W^- u \bar{d}$	$-3.01 \cdot 10^{-23}$	$-3.01 \cdot 10^{-23}$	$-1.329 \cdot 10^{-6}$	$4.599 \cdot 10^{-24}$	$4.599 \cdot 10^{-24}$	$-2.675 \cdot 10^{-6}$		
$HW^+ \to \gamma u \bar{d}$	$-2.281 \cdot 10^{-25}$	$-2.281 \cdot 10^{-25}$	$-1.315 \cdot 10^{-6}$	$2.262 \cdot 10^{-27}$	$2.262 \cdot 10^{-27}$	$-2.653 \cdot 10^{-6}$		
$HW^+ \to u\bar{d}$	$-2.346 \cdot 10^{-19}$	$-2.346 \cdot 10^{-19}$	$-1.322 \cdot 10^{-6}$	$2.419 \cdot 10^{-20}$	$2.419 \cdot 10^{-20}$	$-2.687 \cdot 10^{-6}$		

$W^+W^- \to Hc\bar{c}$	$-4.867 \cdot 10^{-18}$	$-4.867 \cdot 10^{-18}$	$4.726 \cdot 10^{-7}$	$1.369 \cdot 10^{-24}$	$1.369 \cdot 10^{-24}$	$8.767 \cdot 10^{-7}$
$W^+W^-  o Hd\bar{d}$	$-4.287 \cdot 10^{-24}$	$-4.287 \cdot 10^{-24}$	$-1.329 \cdot 10^{-6}$	$2.101 \cdot 10^{-35}$	$2.101 \cdot 10^{-35}$	$-2.666 \cdot 10^{-6}$
$\bar{b}t \to \bar{d}u$	$3.298 \cdot 10^{-21}$	$3.298 \cdot 10^{-21}$	$-1.334 \cdot 10^{-6}$	$3.915 \cdot 10^{-24}$	$3.915 \cdot 10^{-24}$	$-2.656 \cdot 10^{-6}$
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-4.122 \cdot 10^{-16}$	$-4.122 \cdot 10^{-16}$	$4.852 \cdot 10^{-7}$	$4.123 \cdot 10^{-17}$	$4.123 \cdot 10^{-17}$	$9.459 \cdot 10^{-7}$
$u\bar{d} \to \mu^+ \nu_\mu$	$-3.123 \cdot 10^{-24}$	$-3.123 \cdot 10^{-24}$	$-1.345 \cdot 10^{-6}$	$7.549 \cdot 10^{-25}$	$7.549 \cdot 10^{-25}$	$-2.663 \cdot 10^{-6}$
$u\bar{d} \to c\bar{s}$	$-1.285 \cdot 10^{-15}$	$-1.285 \cdot 10^{-15}$	$4.671 \cdot 10^{-7}$	$1.84 \cdot 10^{-16}$	$1.84 \cdot 10^{-16}$	$9.785 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$-1.557 \cdot 10^{-19}$	$-1.557 \cdot 10^{-19}$	$-1.285 \cdot 10^{-6}$	$2.914 \cdot 10^{-26}$	$2.914 \cdot 10^{-26}$	$-2.677 \cdot 10^{-6}$

# 2.28 cQQ1

		inte	erference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$b\bar{b}  o b\bar{b}$	-0.01219	-0.01219	0	0.2378	0.2378	0		
$b\bar{b} \to t\bar{t}$	-1.115	-1.115	0	2.337	2.337	0		
$t\bar{t} \to t\bar{t}$	-465.9	-465.9	0	36.6	36.6	0		

## 2.29 cQQ8

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1
$b\bar{b}  o b\bar{b}$	-45.87	-45.87	0	1.136	1.136	0
$b\bar{b} \to t\bar{t}$	-0.0008917	-0.0008917	$-2.433 \cdot 10^{-6}$	0.3937	0.3937	0
$t\bar{t} \to t\bar{t}$	-73.59	-73.59	$-1.359 \cdot 10^{-8}$	3.961	3.961	0

## 2.30 cQb1

$b\bar{b}  o b\bar{b}$	0.08468	0.08468	0	2.167	2.167	0
$b\bar{b} \to t\bar{t}$	-0.008466	-0.008466	0	0.5014	0.5014	0

# 2.31 cQb8

		i	nterference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$b\bar{b}  o b\bar{b}$	-3.525	-3.525	0	0.501	0.501	0		
$b\bar{b} \to t\bar{t}$	0.233	0.233	0	0.07205	0.07205	0		

# 2.32 cQd1

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1
$b\bar{b} \to d\bar{d}$	-0.001966	-0.001966	0	0.1417	0.1417	0
$t\bar{t} \to d\bar{d}$	-0.01043	-0.01043	0	0.6601	0.6601	0
$t\bar{t} \to s\bar{s}$	-0.008747	-0.008747	0	0.5337	0.5337	0

# 2.33 cQd8

		int	erference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
$b\bar{b} \to d\bar{d}$	0.005776	0.005776	0	0.001945	0.001945	0		
$t\bar{t} \to d\bar{d}$	0.1398	0.1398	0	0.04054	0.04054	0		
$t\bar{t} \to s\bar{s}$	0.154	0.154	0	0.04535	0.04535	0		

# 2.34 cQe

		rference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to \mu^+ \mu^-$	-0.001464	-0.001464	0	0.03518	0.03518	0	
$t\bar{t} \to \tau^+ \tau^-$	-0.007915	-0.007915	0	0.1571	0.1571	0	

# 2.35 cQj11

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to d\bar{d}$	0.005681	0.005681	0	0.02563	0.02563	0	
$b\bar{b} \to u\bar{u}$	-0.009719	-0.009719	0	0.04678	0.04678	0	
$t\bar{t} \to c\bar{c}$	0.02149	0.02149	0	0.0936	0.0936	0	
$t\bar{t} \to d\bar{d}$	-0.1176	-0.1176	0	0.5701	0.5701	0	
$t\bar{t} \to s\bar{s}$	-0.1161	-0.1161	0	0.563	0.563	0	

# 2.36 cQj18

		in	nterference		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
$b\bar{b} \to d\bar{d}$	0.2382	0.2382	0	0.08039	0.08039	0		
$b\bar{b} \to u\bar{u}$	0.05142	0.05142	0	0.01735	0.01735	0		
$t\bar{t} \to c\bar{c}$	0.0924	0.0924	$1.082 \cdot 10^{-8}$	0.02455	0.02455	0		
$t\bar{t} \to d\bar{d}$	0.4446	0.4446	0	0.1434	0.1434	0		
$t\bar{t} \to s\bar{s}$	0.1078	0.1078	0	0.02973	0.02973	0		

# $2.37 \quad \text{cQj}31$

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$\bar{b}t \to \bar{d}u$	0.5217	0.5217	0	2.431	2.431	0
$b\bar{b} \to d\bar{d}$	0.003166	0.003166	0	0.01428	0.01428	0
$b\bar{b} \to u\bar{u}$	0.005373	0.005373	0	0.02586	0.02586	0
$t\bar{t} \to c\bar{c}$	0.1416	0.1416	0	0.6369	0.6369	0
$t\bar{t} \to d\bar{d}$	-0.0001157	-0.0001157	0	0.00343	0.00343	0
$t\bar{t} \to s\bar{s}$	0.1633	0.1633	0	0.7899	0.7899	0

# 2.38 cQj38

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$3.316 \cdot 10^{-9}$	$8.366 \cdot 10^{-18}$	1	0.5152	0.5152	0	
$b\bar{b} \to d\bar{d}$	0.0203	0.0203	0	0.006847	0.006847	0	
$b\bar{b} \to u\bar{u}$	-0.4045	-0.4045	0	0.1365	0.1365	0	
$t\bar{t} \to c\bar{c}$	0.1889	0.1889	0	0.05712	0.05712	0	
$t\bar{t} \to d\bar{d}$	-0.08998	-0.08998	0	0.02373	0.02373	0	
$t\bar{t} \to s\bar{s}$	-0.4067	-0.4067	0	0.1306	0.1306	0	

# 2.39 cQl1

		inte	erference	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$b\bar{b} \to \mu^+ \mu^-$	0.02521	0.02521	0	0.13	0.13	0
$b\bar{b}  o  u_e \bar{ u}_e$	-0.02301	-0.02301	0	0.09771	0.09771	0
$t\bar{t} \to \nu_{\mu}\bar{\nu}_{\mu}$	0.02482	0.02482	0	0.1319	0.1319	0
$t\bar{t} \rightarrow \tau^+ \tau^-$	-0.05733	-0.05733	0	0.2411	0.2411	0

## 2.40 cQl3

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to \mu^+\mu^-$	0.001628	0.001628	0	0.008396	0.008396	0	
$b\bar{b}  o  u_e \bar{ u}_e$	0.0416	0.0416	0	0.1766	0.1766	0	
$b\bar{t} \to e^-\bar{\nu}_e$	0.2381	0.2381	0	1.11	1.11	0	
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	0.003833	0.003833	0	0.02392	0.02392	0	
$t\bar{t} \rightarrow \tau^+ \tau^-$	0.004869	0.004869	0	0.01733	0.01733	0	

## 2.41 cQt1

		in	terterence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to t\bar{t}$	-0.2388	-0.2388	0	0.5014	0.5014	0	
$t\bar{t} \to t\bar{t}$	-0.5916	-0.5916	0	7.867	7.867	0	

## 2.42 cQt8

		$\mathrm{int}\epsilon$	erference		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to t\bar{t}$	-0.08322	-0.08322	0	0.02223	0.02223	0	
$t\bar{t} \to t\bar{t}$	-1.522	-1.522	0	2.416	2.416	0	

## $2.43 \quad cQtQb1Im$

 $b\bar{b} \to t\bar{t}$   $-3.613 \cdot 10^{-19}$   $-3.545 \cdot 10^{-19}$  0.01876 0.5959 0.5959 0

#### 2.44 cQtQb1Re

#### 2.45 cQtQb8Im

#### 2.46 cQtQb8Re

#### 2.47 cQtjd1Im

interference square mod2 1 - mod2/mod1mod1mod2 1 - mod2/mod1mod1 $\bar{b}t \to \bar{d}u$  $6.041 \cdot 10^{-14}$  $6.041 \cdot 10^{-14}$   $-5.794 \cdot 10^{-7}$  $1.799 \cdot 10^{-10}$   $1.799 \cdot 10^{-10}$  $-1.168 \cdot 10^{-6}$ 1.821  $t\bar{t} \to d\bar{d}$  $1.206 \cdot 10^{-26}$  $-9.906 \cdot 10^{-27}$  $3.601 \cdot 10^{-10}$  $-1.194 \cdot 10^{-6}$  $3.601 \cdot 10^{-10}$  $t\bar{t} \to s\bar{s}$  $-8.313 \cdot 10^{-26} \quad -6.043 \cdot 10^{-24}$ -71.69 $1.428 \cdot 10^{-7}$  $1.428 \cdot 10^{-7}$  $6.303 \cdot 10^{-7}$ 

## 2.48 cQtjd1Re

		interfere	ence	square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$-3.571 \cdot 10^{-10}$	$-3.571 \cdot 10^{-10}$	$-5.88 \cdot 10^{-7}$	$1.799 \cdot 10^{-10}$	$1.799 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$	
$t\bar{t} \to d\bar{d}$	$-7.079 \cdot 10^{-10}$	$-7.079 \cdot 10^{-10}$	$-5.792 \cdot 10^{-7}$	$3.601 \cdot 10^{-10}$	$3.601 \cdot 10^{-10}$	$-1.166 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$-2.817 \cdot 10^{-7}$	$-2.817 \cdot 10^{-7}$	$3.195 \cdot 10^{-7}$	$1.428 \cdot 10^{-7}$	$1.428 \cdot 10^{-7}$	$6.303 \cdot 10^{-7}$	

## 2.49 cQtjd8Im

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$1.287 \cdot 10^{-32}$	$3.59 \cdot 10^{-28}$	$-2.789 \cdot 10^4$	$3.997 \cdot 10^{-11}$	$3.997 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$	
$t\bar{t} \to d\bar{d}$	$-4.657 \cdot 10^{-27}$	$-3.044 \cdot 10^{-27}$	0.3464	$8.001 \cdot 10^{-11}$	$8.001 \cdot 10^{-11}$	$-1.175 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$-6.723 \cdot 10^{-25}$	$-5.62 \cdot 10^{-25}$	0.1641	$3.173 \cdot 10^{-8}$	$3.173 \cdot 10^{-8}$	$6.303 \cdot 10^{-7}$	

## 2.50 cQtjd8Re

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$\bar{b}t \to \bar{d}u$	$-5.744 \cdot 10^{-27}$	$-8.765 \cdot 10^{-32}$	1	$3.997 \cdot 10^{-11}$	$3.997 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$		
$t\bar{t} \to d\bar{d}$	$2.601 \cdot 10^{-11}$	$2.601 \cdot 10^{-11}$	$-5.767 \cdot 10^{-7}$	$8.001 \cdot 10^{-11}$	$8.001 \cdot 10^{-11}$	$-1.175 \cdot 10^{-6}$		
$t\bar{t} \to s\bar{s}$	$-8.451 \cdot 10^{-9}$	$-8.451 \cdot 10^{-9}$	$3.077 \cdot 10^{-7}$	$3.173 \cdot 10^{-8}$	$3.173 \cdot 10^{-8}$	$6.303 \cdot 10^{-7}$		

## 2.51 cQu1

$b\bar{b} \to u\bar{u}$	0.001297	0.001297	0	0.04675	0.04675	0
$t\bar{t} \to c\bar{c}$	0.01055	0.01055	0	0.2734	0.2734	0

## 2.52 cQu8

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to u\bar{u}$	0.3419	0.3419	0	0.1154	0.1154	0	
$t\bar{t} \to c\bar{c}$	0.34	0.34	0	0.1081	0.1081	0	

## 2.53 cQujb1Im

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$-2.997 \cdot 10^{-17}$	$-2.997 \cdot 10^{-17}$	$-7.342 \cdot 10^{-7}$	$2.712 \cdot 10^{-12}$	$2.712 \cdot 10^{-12}$	$-1.438 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$-1.988 \cdot 10^{-30}$	$-2.085 \cdot 10^{-30}$	-0.04904	$2.216 \cdot 10^{-14}$	$2.216 \cdot 10^{-14}$	$-1.444 \cdot 10^{-6}$	

## 2.54 cQujb1Re

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$\bar{b}t \to \bar{d}u$	$-4.674 \cdot 10^{-13}$	$-4.674 \cdot 10^{-13}$	$-7.275 \cdot 10^{-7}$	$2.144 \cdot 10^{-11}$	$2.144 \cdot 10^{-11}$	$-1.446 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$-4.227 \cdot 10^{-13}$	$-4.227 \cdot 10^{-13}$	$-7.333 \cdot 10^{-7}$	$4.358 \cdot 10^{-11}$	$4.358 \cdot 10^{-11}$	$-1.446 \cdot 10^{-6}$	

## 2.55 cQujb8Im

#### 2.56 cQujb8Re

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$-7.533 \cdot 10^{-13}$	$-7.533 \cdot 10^{-13}$	$-7.301 \cdot 10^{-7}$	$7.057 \cdot 10^{-12}$	$7.057 \cdot 10^{-12}$	$-1.445 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$-8.853 \cdot 10^{-13}$	$-8.853 \cdot 10^{-13}$	$-7.229 \cdot 10^{-7}$	$4.023 \cdot 10^{-12}$	$4.023 \cdot 10^{-12}$	$-1.442 \cdot 10^{-6}$	

#### 2.57 cW

		interfer		square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \to W^+W^-\gamma$	$-1.323 \cdot 10^{-7}$	$-1.323 \cdot 10^{-7}$	0	$8.133 \cdot 10^{-7}$	$8.133 \cdot 10^{-7}$	0
$HW^+  o \gamma t \bar{b}$	$2.672 \cdot 10^{-8}$	$2.672 \cdot 10^{-8}$	0	$1.03 \cdot 10^{-6}$	$1.03 \cdot 10^{-6}$	0
$HW^+ \to \gamma u \bar{d}$	$1.38 \cdot 10^{-6}$	$1.38 \cdot 10^{-6}$	0	$2.415 \cdot 10^{-5}$	$2.415 \cdot 10^{-5}$	0
$HW^-  o \gamma e^- \bar{\nu}_e$	$-1.545 \cdot 10^{-8}$	$-1.545 \cdot 10^{-8}$	0	$4.102 \cdot 10^{-8}$	$4.102 \cdot 10^{-8}$	0
$W^+W^- \to Hb\bar{b}$	$-7.948 \cdot 10^{-8}$	$-7.948 \cdot 10^{-8}$	0	$8.176 \cdot 10^{-7}$	$8.176 \cdot 10^{-7}$	0
$W^+W^-  o Hc\bar{c}$	-0.0003101	-0.0003101	0	0.0002887	0.0002887	0
$W^+W^- \to H d\bar{d}$	$-1.238 \cdot 10^{-5}$	$-1.238 \cdot 10^{-5}$	0	$1.912 \cdot 10^{-5}$	$1.912 \cdot 10^{-5}$	0
$W^+W^-  o H t \bar t$	$-1.007 \cdot 10^{-6}$	$-1.007 \cdot 10^{-6}$	0	$5.384 \cdot 10^{-6}$	$5.384 \cdot 10^{-6}$	0
$W^+W^- \to W^+W^-$	-0.01947	-0.01947	0	17.97	17.97	0
$W^+W^- \to \gamma\gamma$	0.001184	0.001184	0	0.6534	0.6534	0
$W^+W^- \to \gamma\gamma\gamma$	$-9.266 \cdot 10^{-7}$	$-9.266 \cdot 10^{-7}$	0	$1.894 \cdot 10^{-6}$	$1.894 \cdot 10^{-6}$	0
$\gamma W^+ \to z W^+$	-0.04206	-0.04206	0	4.95	4.95	0
$zz \to W^+W^-$	-0.04058	-0.04058	0	15.99	15.99	0

# 2.58 cWtil

		interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH  o W^+W^-\gamma$	$-5.691 \cdot 10^{-8}$	$-5.691 \cdot 10^{-8}$	0	$8.039 \cdot 10^{-7}$	$8.039 \cdot 10^{-7}$	0	
$HW^+ \to \gamma t \bar{b}$	$-4.102 \cdot 10^{-8}$	$-4.102 \cdot 10^{-8}$	0	$3.289 \cdot 10^{-7}$	$3.289 \cdot 10^{-7}$	0	
$HW^+ \to \gamma u \bar{d}$	$1.173 \cdot 10^{-9}$	$1.173 \cdot 10^{-9}$	0	$1.256 \cdot 10^{-8}$	$1.256 \cdot 10^{-8}$	0	
$HW^- \to \gamma e^- \bar{\nu}_e$	$3.066 \cdot 10^{-9}$	$3.066 \cdot 10^{-9}$	0	$1.065 \cdot 10^{-9}$	$1.065 \cdot 10^{-9}$	0	
$W^+W^- \to Hb\bar{b}$	$-1.009 \cdot 10^{-8}$	$-1.009 \cdot 10^{-8}$	0	$8.215 \cdot 10^{-7}$	$8.215 \cdot 10^{-7}$	0	
$W^+W^- \to Hc\bar{c}$	$5.468 \cdot 10^{-8}$	$5.468 \cdot 10^{-8}$	0	$1.078 \cdot 10^{-6}$	$1.078 \cdot 10^{-6}$	0	
$W^+W^- \to H d\bar{d}$	$9.253 \cdot 10^{-7}$	$9.253 \cdot 10^{-7}$	0	$3.016 \cdot 10^{-6}$	$3.016 \cdot 10^{-6}$	0	
$W^+W^- \to H t \bar t$	$-3.24 \cdot 10^{-7}$	$-3.24 \cdot 10^{-7}$	0	$9.072 \cdot 10^{-6}$	$9.072 \cdot 10^{-6}$	0	
$W^+W^- \to W^+W^-$	$9.654 \cdot 10^{-13}$	$1.219 \cdot 10^{-12}$	-0.2629	3.828	3.828	0	
$W^+W^- \to \gamma\gamma$	$-4.526 \cdot 10^{-17}$	$-4.191 \cdot 10^{-17}$	0.07401	0.6529	0.6529	0	
$W^+W^- \to \gamma\gamma\gamma$	$4.017 \cdot 10^{-7}$	$4.017 \cdot 10^{-7}$	0	$1.767 \cdot 10^{-5}$	$1.767 \cdot 10^{-5}$	0	
$\gamma W^+ \to z W^+$	$-7.414 \cdot 10^{-15}$	$-7.66 \cdot 10^{-15}$	-0.03308	3.125	3.125	0	
$zz  o W^+W^-$	$-6.039 \cdot 10^{-15}$	$-6.044 \cdot 10^{-15}$	-0.0007979	13.9	13.9	0	

#### 2.59 cbBIm

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to z\bar{b}b$	$-5.127 \cdot 10^{-9}$	$-5.127 \cdot 10^{-9}$	0	$2.695 \cdot 10^{-6}$	$2.695 \cdot 10^{-6}$	0	
$HW^+ \to \gamma t \bar{b}$	$9.598 \cdot 10^{-8}$	$9.598 \cdot 10^{-8}$	0	$6.35 \cdot 10^{-6}$	$6.35 \cdot 10^{-6}$	0	
$H\gamma  o b\bar{b}$	$-4.48 \cdot 10^{-20}$	$-4.48 \cdot 10^{-20}$	0	1.725	1.725	0	
$Hz \to b\bar{b}$	$-1.846 \cdot 10^{-7}$	$-1.846 \cdot 10^{-7}$	0	0.4598	0.4598	0	
$W^+W^-  o Hbar{b}$	$2.452 \cdot 10^{-9}$	$2.452 \cdot 10^{-9}$	0	$6.149 \cdot 10^{-9}$	$6.149 \cdot 10^{-9}$	0	
$b\bar{b}  o \gamma \gamma$	$1.561 \cdot 10^{-22}$	$1.561 \cdot 10^{-22}$	$1.845 \cdot 10^{-5}$	0.00199	0.00199	0	
$b\bar{b} \rightarrow \mu^+\mu^-$	$-1.551 \cdot 10^{-20}$	$-1.551 \cdot 10^{-20}$	0	0.00309	0.00309	0	

$b\bar{b}  o  u_e \bar{ u}_e$	$2.089 \cdot 10^{-21}$	$2.089 \cdot 10^{-21}$	0	0.0005254	0.0005254	0
$b\bar{b}  o b\bar{b}$	$7.782 \cdot 10^{-19}$	$7.903 \cdot 10^{-19}$	-0.01554	0.01678	0.01678	0
$b\bar{b} \to d\bar{d}$	$-1.627 \cdot 10^{-21}$	$-1.628 \cdot 10^{-21}$	-0.0004519	0.0009174	0.0009174	0
$b\bar{b} \to t\bar{t}$	$-2.465 \cdot 10^{-21}$	$-1.712 \cdot 10^{-21}$	0.3055	0.0007489	0.0007489	0
$b\bar{b} \to u\bar{u}$	$3.264 \cdot 10^{-21}$	$3.262 \cdot 10^{-21}$	0.0004506	0.002066	0.002066	0

### 2.60 cbBRe

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$HH  o z \bar b b$	$-1.59 \cdot 10^{-8}$	$-1.59 \cdot 10^{-8}$	0	$1.599 \cdot 10^{-7}$	$1.599 \cdot 10^{-7}$	0	
$HW^+  o \gamma t \bar{b}$	$2.216 \cdot 10^{-7}$	$2.216 \cdot 10^{-7}$	0	$1.319 \cdot 10^{-5}$	$1.319 \cdot 10^{-5}$	0	
$H\gamma \to b\bar{b}$	$-1.846 \cdot 10^{-6}$	$-1.846 \cdot 10^{-6}$	0	2.304	2.304	0	
$Hz  o b\bar{b}$	-0.0006981	-0.0006981	0	0.2011	0.2011	0	
$W^+W^- \to H b \bar b$	$2.67 \cdot 10^{-9}$	$2.67 \cdot 10^{-9}$	0	$7.848 \cdot 10^{-9}$	$7.848 \cdot 10^{-9}$	0	
$b\bar{b}  o \gamma \gamma$	$7.426 \cdot 10^{-6}$	$7.426 \cdot 10^{-6}$	0	0.00199	0.00199	0	
$b\bar{b}  o \mu^+\mu^-$	$1.941 \cdot 10^{-5}$	$1.941 \cdot 10^{-5}$	0	0.002953	0.002953	0	
$b\bar{b}  o  u_e \bar{ u}_e$	$5.495 \cdot 10^{-6}$	$5.495 \cdot 10^{-6}$	0	$7.895 \cdot 10^{-5}$	$7.895 \cdot 10^{-5}$	0	
$b\bar{b}  o b\bar{b}$	-0.02879	-0.02879	0	0.2808	0.2808	0	
$b\bar{b}  o d\bar{d}$	$-2.113 \cdot 10^{-5}$	$-2.113 \cdot 10^{-5}$	0	0.0008732	0.0008732	0	
$b\bar{b}  o t\bar{t}$	$5.924 \cdot 10^{-5}$	$5.924 \cdot 10^{-5}$	0	0.003009	0.003009	0	
$b\bar{b} \to u\bar{u}$	$7.014\cdot10^{-5}$	$7.014 \cdot 10^{-5}$	0	0.0002341	0.0002341	0	

### 2.61 cbGIm

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$b\bar{b} \to b\bar{b}$	$7.299 \cdot 10^{-20}$	$8.801 \cdot 10^{-20}$	-0.2057	0.041	0.041	0
$b\bar{b} \to d\bar{d}$	$-9.189 \cdot 10^{-26}$	$-9.189 \cdot 10^{-26}$	0	0.01354	0.01354	0

$b\bar{b}  o t\bar{t}$	$-3.132 \cdot 10^{-19}$	$-3.132 \cdot 10^{-19}$	0	0.03255	0.03255	0
$b\bar{b} \to u\bar{u}$	$4.595 \cdot 10^{-26}$	$4.595 \cdot 10^{-26}$	0	0.02974	0.02974	0

# 2.62 cbGRe

		inter	rference		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$	
$b\bar{b}  o b\bar{b}$	-0.01883	-0.01883	0	0.412	0.412	0	
$b\bar{b} \to d\bar{d}$	-0.004666	-0.004666	0	0.03517	0.03517	0	
$b\bar{b} \to t\bar{t}$	0.01142	0.01142	0	0.009815	0.009815	0	
$b\bar{b} \to u\bar{u}$	-0.004666	-0.004666	0	0.02353	0.02353	0	

# 2.63 cbHIm

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH  o Hbar{b}$	$-6.92 \cdot 10^{-10}$	$-6.92 \cdot 10^{-10}$	0	$5.198 \cdot 10^{-6}$	$5.198 \cdot 10^{-6}$	0
$HH \to W^+ \bar{t} b$	$-3.993 \cdot 10^{-6}$	$-3.993 \cdot 10^{-6}$	0	0.0002108	0.0002108	0
$HH  o z \bar b b$	$-7.744 \cdot 10^{-10}$	$-7.744 \cdot 10^{-10}$	0	$1.104 \cdot 10^{-5}$	$1.104 \cdot 10^{-5}$	0
$HW^+  o \gamma t \bar{b}$	$7.029 \cdot 10^{-10}$	$7.029 \cdot 10^{-10}$	0	$2.295 \cdot 10^{-8}$	$2.295 \cdot 10^{-8}$	0
$HW^-  o \bar{t}b$	$1.239 \cdot 10^{-5}$	$1.239 \cdot 10^{-5}$	0	0.0812	0.0812	0
$H\gamma \to b\bar{b}$	$-2.711 \cdot 10^{-20}$	$-2.711 \cdot 10^{-20}$	0	0.0004792	0.0004792	0
$Hz \to b\bar{b}$	$-9.466 \cdot 10^{-9}$	$-9.466 \cdot 10^{-9}$	0	0.06374	0.06374	0
$W^+W^- \to H b \bar b$	$1.025 \cdot 10^{-8}$	$1.025 \cdot 10^{-8}$	0	$1.014 \cdot 10^{-7}$	$1.014 \cdot 10^{-7}$	0
$W^+W^-  o H t \bar t$	$1.131 \cdot 10^{-8}$	$1.131 \cdot 10^{-8}$	0	$3.28 \cdot 10^{-11}$	$3.28 \cdot 10^{-11}$	0
$b\bar{b} \to \mu^+ \mu^-$	$4.488 \cdot 10^{-28}$	$4.488 \cdot 10^{-28}$	0	$1.164 \cdot 10^{-10}$	$1.164 \cdot 10^{-10}$	0
$b\bar{b}  o b\bar{b}$	$1.131 \cdot 10^{-19}$	$1.131 \cdot 10^{-19}$	$-2.034 \cdot 10^{-6}$	$2.822 \cdot 10^{-6}$	$2.822 \cdot 10^{-6}$	0
$b\bar{b} \to d\bar{d}$	$4.113 \cdot 10^{-30}$	$3.729 \cdot 10^{-30}$	0.09324	$6.823 \cdot 10^{-13}$	$6.823 \cdot 10^{-13}$	0
$b\bar{b} \to t\bar{t}$	$2.729 \cdot 10^{-21}$	$8.47 \cdot 10^{-21}$	-2.103	0.0008223	0.0008223	0

 $b\bar{b} \to u\bar{u}$   $-7.1 \cdot 10^{-30}$   $-1.041 \cdot 10^{-30}$  0.8534  $1.46 \cdot 10^{-13}$   $1.46 \cdot 10^{-13}$  0

### 2.64 cbHRe

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH  o Hbar{b}$	$-1.595 \cdot 10^{-8}$	$-1.595 \cdot 10^{-8}$	0	$8.93 \cdot 10^{-7}$	$8.93 \cdot 10^{-7}$	0
$HH \to W^+ \bar{t} b$	$-6.998 \cdot 10^{-6}$	$-6.998 \cdot 10^{-6}$	0	$2.573 \cdot 10^{-5}$	$2.573 \cdot 10^{-5}$	0
$HH  o z \bar b b$	$1.906 \cdot 10^{-6}$	$1.906 \cdot 10^{-6}$	0	$7.736 \cdot 10^{-6}$	$7.736 \cdot 10^{-6}$	0
$HW^+ \to \gamma t \bar{b}$	$4.612 \cdot 10^{-10}$	$4.612 \cdot 10^{-10}$	0	$2.845 \cdot 10^{-8}$	$2.845 \cdot 10^{-8}$	0
$HW^-  o \bar{t}b$	-0.0008545	-0.0008545	0	0.06382	0.06382	0
$H\gamma  o b\bar{b}$	-0.0004424	-0.0004424	0	0.0005586	0.0005586	0
$Hz  o b ar{b}$	-0.0004586	-0.0004586	0	0.06173	0.06173	0
$W^+W^-  o Hb\bar{b}$	$-9.34 \cdot 10^{-9}$	$-9.34 \cdot 10^{-9}$	0	$7.957 \cdot 10^{-8}$	$7.957 \cdot 10^{-8}$	0
$W^+W^- \to H t \bar t$	$3.118 \cdot 10^{-8}$	$3.118 \cdot 10^{-8}$	0	$3.097 \cdot 10^{-11}$	$3.097 \cdot 10^{-11}$	0
$b\bar{b}  o \mu^+\mu^-$	$-9.286 \cdot 10^{-11}$	$-9.286 \cdot 10^{-11}$	0	$1.164 \cdot 10^{-10}$	$1.164 \cdot 10^{-10}$	0
b ar b  o b ar b	0.003875	0.003875	0	$4.934 \cdot 10^{-6}$	$4.934 \cdot 10^{-6}$	0
$b\bar{b} \to d\bar{d}$	$-5.385 \cdot 10^{-13}$	$-5.385 \cdot 10^{-13}$	0	$6.822 \cdot 10^{-13}$	$6.822 \cdot 10^{-13}$	0
$b\bar{b}  o t\bar{t}$	-0.0004213	-0.0004213	0	0.0008222	0.0008222	0
$b\bar{b} \to u\bar{u}$	$-1.158 \cdot 10^{-13}$	$-1.158 \cdot 10^{-13}$	0	$1.46 \cdot 10^{-13}$	$1.46 \cdot 10^{-13}$	0

#### 2.65 cbWIm

		interfere	ence	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH  o W^+ \bar t b$	$4.74 \cdot 10^{-6}$	$4.74 \cdot 10^{-6}$	0	$5.004 \cdot 10^{-5}$	$5.004 \cdot 10^{-5}$	0
$HH \to z\bar{b}b$	$-1.102 \cdot 10^{-7}$	$-1.102 \cdot 10^{-7}$	0	$4.098 \cdot 10^{-6}$	$4.098 \cdot 10^{-6}$	0
$HW^+ \to \gamma t \bar{b}$	$4.232 \cdot 10^{-8}$	$4.232 \cdot 10^{-8}$	0	$1.452 \cdot 10^{-6}$	$1.452 \cdot 10^{-6}$	0
$HW^-  o \bar{t}b$	$-1.048 \cdot 10^{-5}$	$-1.048 \cdot 10^{-5}$	0	1.226	1.226	0

$H\gamma  o b\bar{b}$	$1.735 \cdot 10^{-19}$	$1.735 \cdot 10^{-19}$	0	0.4062	0.4062	0
$Hz \to b\bar{b}$	$-1.091 \cdot 10^{-6}$	$-1.091 \cdot 10^{-6}$	0	1.568	1.568	0
$W^+W^- \to H b \bar b$	$-5.085 \cdot 10^{-8}$	$-5.085 \cdot 10^{-8}$	0	$9.922 \cdot 10^{-6}$	$9.922 \cdot 10^{-6}$	0
$W^+W^-  o H t \bar t$	$3.889 \cdot 10^{-9}$	$3.889 \cdot 10^{-9}$	0	$1.732 \cdot 10^{-8}$	$1.732 \cdot 10^{-8}$	0
$\bar{b}t \to \bar{d}u$	$2.627 \cdot 10^{-19}$	$2.627 \cdot 10^{-19}$	0	0.007702	0.007702	0
$b\bar{b}  o \gamma \gamma$	$7.213 \cdot 10^{-23}$	$7.213 \cdot 10^{-23}$	0	0.0005705	0.0005705	0
$b\bar{b} \to \mu^+ \mu^-$	$-4.315 \cdot 10^{-20}$	$-4.315 \cdot 10^{-20}$	0	0.002039	0.002039	0
$b\bar{b}  o  u_e \bar{ u}_e$	$1.073 \cdot 10^{-19}$	$1.073 \cdot 10^{-19}$	0	0.002175	0.002175	0
$b\bar{b}  o b\bar{b}$	$-2.878 \cdot 10^{-18}$	$-2.837 \cdot 10^{-18}$	0.01453	0.03987	0.03987	0
$b\bar{b} \to d\bar{d}$	$3.055 \cdot 10^{-20}$	$3.055 \cdot 10^{-20}$	0	0.003525	0.003525	0
$b\bar{b}  o t\bar{t}$	$-9.551 \cdot 10^{-19}$	$-9.603 \cdot 10^{-19}$	-0.005444	0.2183	0.2183	0
$b\bar{b} \to u\bar{u}$	$4.101 \cdot 10^{-19}$	$4.101 \cdot 10^{-19}$	0	0.004433	0.004433	0
$b\bar{t} \to e^- \bar{\nu}_e$	$7.035 \cdot 10^{-21}$	$7.035 \cdot 10^{-21}$	0	0.002982	0.002982	0

# 2.66 cbWRe

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to W^+ \bar{t} b$	$5.169 \cdot 10^{-7}$	$5.169 \cdot 10^{-7}$	0	$2.396 \cdot 10^{-5}$	$2.396 \cdot 10^{-5}$	0	
$HH \to z\bar{b}b$	$-4.548 \cdot 10^{-8}$	$-4.548 \cdot 10^{-8}$	0	$5.993 \cdot 10^{-7}$	$5.993 \cdot 10^{-7}$	0	
$HW^+ \to \gamma t \bar{b}$	$-9.568 \cdot 10^{-10}$	$-9.568 \cdot 10^{-10}$	0	$1.18 \cdot 10^{-6}$	$1.18 \cdot 10^{-6}$	0	
$HW^-  o \bar{t}b$	-0.00308	-0.00308	0	1.926	1.926	0	
$H\gamma  o b\bar{b}$	$1.155 \cdot 10^{-6}$	$1.155 \cdot 10^{-6}$	0	0.5653	0.5653	0	
$Hz \to b\bar{b}$	-0.001306	-0.001306	0	1.573	1.573	0	
$W^+W^- \to H b \bar b$	$1.145 \cdot 10^{-7}$	$1.145 \cdot 10^{-7}$	0	$3.349 \cdot 10^{-6}$	$3.349 \cdot 10^{-6}$	0	
$W^+W^-  o H t ar t$	$-9.71 \cdot 10^{-8}$	$-9.71 \cdot 10^{-8}$	0	$2.012 \cdot 10^{-8}$	$2.012 \cdot 10^{-8}$	0	
$\bar{b}t \to \bar{d}u$	-0.0003764	-0.0003764	0	0.004115	0.004115	0	
$b\bar{b} \to \gamma \gamma$	$-5.02 \cdot 10^{-6}$	$-5.02 \cdot 10^{-6}$	0	0.0005706	0.0005706	0	
$b\bar{b} \to \mu^+\mu^-$	$-2.068 \cdot 10^{-5}$	$-2.068 \cdot 10^{-5}$	0	0.001161	0.001161	0	

$b\bar{b}  o  u_e \bar{ u}_e$	$-5.12 \cdot 10^{-5}$	$-5.12 \cdot 10^{-5}$	0	0.001735	0.001735	0
$b\bar{b}  o b\bar{b}$	0.00264	0.00264	0	0.1236	0.1236	0
$b\bar{b} \to d\bar{d}$	-0.000153	-0.000153	0	0.005074	0.005074	0
$b\bar{b} \to t\bar{t}$	-0.004418	-0.004418	0	0.07264	0.07264	0
$b\bar{b} \to u\bar{u}$	$-3.887 \cdot 10^{-5}$	$-3.887 \cdot 10^{-5}$	0	0.003154	0.003154	0
$b\bar{t} \to e^- \bar{\nu}_e$	-0.000125	-0.000125	0	0.001421	0.001421	0

#### 2.67 cbb

#### 2.68 cbd1

#### 2.69 cbd8

#### 2.70 cbe

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$b\bar{b} \to \mu^+\mu^-$	0.02365	0.02365	0	0.2896	0.2896	0

### 2.71 cbj1

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to d\bar{d}$	-0.0022	-0.0022	0	0.1588	0.1588	0	
$b\bar{b} \to u\bar{u}$	-0.006933	-0.006933	0	0.5193	0.5193	0	

### 2.72 cbj8

	interterence				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$b\bar{b} \to d\bar{d}$	0.3799	0.3799	0	0.1282	0.1282	0		
$b\bar{b} \to u\bar{u}$	0.2553	0.2553	0	0.08615	0.08615	0		

#### 2.73 cbl

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to \mu^+\mu^-$	$6.365 \cdot 10^{-5}$	$6.365 \cdot 10^{-5}$	0	0.001541	0.001541	0	
$b\bar{b}  o  u_e \bar{ u}_e$	0.0004472	0.0004472	0	0.01091	0.01091	0	

### 2.74 cbu1

 $b\bar{b} \to u\bar{u}$  -0.00425 -0.00425 0 0.07808 0.07808 0

#### 2.75 cbu8

#### 2.76 cdBIm

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to z d\bar{d}$	$5.467 \cdot 10^{-15}$	$5.467 \cdot 10^{-15}$	$-5.853 \cdot 10^{-7}$	$1.549 \cdot 10^{-15}$	$1.549 \cdot 10^{-15}$	$-1.226 \cdot 10^{-6}$		
$HW^+ \to \gamma u \bar{d}$	$-4.841 \cdot 10^{-17}$	$-4.841 \cdot 10^{-17}$	$-5.991 \cdot 10^{-7}$	$4.92 \cdot 10^{-16}$	$4.92 \cdot 10^{-16}$	$-1.179 \cdot 10^{-6}$		
$H\gamma \to d\bar{d}$	$3.166 \cdot 10^{-36}$	$1.565 \cdot 10^{-37}$	0.9506	$1.596 \cdot 10^{-9}$	$1.596 \cdot 10^{-9}$	$-1.191 \cdot 10^{-6}$		
$Hz \to s\bar{s}$	$7.747 \cdot 10^{-12}$	$7.747 \cdot 10^{-12}$	$3.098 \cdot 10^{-7}$	$1.275 \cdot 10^{-7}$	$1.275 \cdot 10^{-7}$	$6.276 \cdot 10^{-7}$		
$W^+W^-  o Hd\bar{d}$	$-1.155 \cdot 10^{-15}$	$-1.155 \cdot 10^{-15}$	$-6.059 \cdot 10^{-7}$	$6.353 \cdot 10^{-17}$	$6.353 \cdot 10^{-17}$	$-1.181 \cdot 10^{-6}$		
$b\bar{b}  o d\bar{d}$	$1.39 \cdot 10^{-28}$	$1.296 \cdot 10^{-28}$	0.0671	$7.185 \cdot 10^{-13}$	$7.185 \cdot 10^{-13}$	$-1.183 \cdot 10^{-6}$		
$d\bar{d} \to c\bar{c}$	$2.637 \cdot 10^{-28}$	$2.638 \cdot 10^{-28}$	-0.0001973	$1.181 \cdot 10^{-12}$	$1.181 \cdot 10^{-12}$	$-1.185 \cdot 10^{-6}$		
$d\bar{d} \to e^+e^-$	$-6.327 \cdot 10^{-27}$	$-6.327 \cdot 10^{-27}$	0	$1.01 \cdot 10^{-12}$	$1.01 \cdot 10^{-12}$	$-1.189 \cdot 10^{-6}$		
$d\bar{d} \to s\bar{s}$	$1.433 \cdot 10^{-26}$	$-1.851 \cdot 10^{-26}$	2.292	$2.62 \cdot 10^{-10}$	$2.62 \cdot 10^{-10}$	$6.488 \cdot 10^{-7}$		
$s\bar{s} \to \nu_{ au} \bar{\nu}_{ au}$	$-3.992 \cdot 10^{-27}$	$-3.992 \cdot 10^{-27}$	0	$9.754 \cdot 10^{-11}$	$9.754 \cdot 10^{-11}$	$6.356 \cdot 10^{-7}$		
$s\bar{s} \to s\bar{s}$	$1.758 \cdot 10^{-23}$	$1.751 \cdot 10^{-23}$	0.00389	$4.972 \cdot 10^{-9}$	$4.972 \cdot 10^{-9}$	$6.235 \cdot 10^{-7}$		
$t\bar{t}  o d\bar{d}$	$-1.264 \cdot 10^{-26}$	$-1.309 \cdot 10^{-26}$	-0.03611	$1.755 \cdot 10^{-12}$	$1.755 \cdot 10^{-12}$	$-1.197 \cdot 10^{-6}$		
$t\bar{t}  o s\bar{s}$	$4.003 \cdot 10^{-24}$	$4.042 \cdot 10^{-24}$	-0.009647	$9.397 \cdot 10^{-10}$	$9.397 \cdot 10^{-10}$	$6.278 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-8.119 \cdot 10^{-24}$	$-8.119 \cdot 10^{-24}$	$-2.882 \cdot 10^{-6}$	$1.677 \cdot 10^{-10}$	$1.677 \cdot 10^{-10}$	$-1.193 \cdot 10^{-6}$		

#### 2.77 cdBRe

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to z d\bar{d}$	$-3.552 \cdot 10^{-15}$	$-3.552 \cdot 10^{-15}$	$-5.912 \cdot 10^{-7}$	$1.221 \cdot 10^{-15}$	$1.221 \cdot 10^{-15}$	$-1.228 \cdot 10^{-6}$	
$HW^+  o \gamma u \bar{d}$	$-7.994 \cdot 10^{-16}$	$-7.994 \cdot 10^{-16}$	$-5.879 \cdot 10^{-7}$	$1.129 \cdot 10^{-15}$	$1.129 \cdot 10^{-15}$	$-1.151 \cdot 10^{-6}$	
$H\gamma \to d\bar{d}$	$-8.697 \cdot 10^{-20}$	$-8.697 \cdot 10^{-20}$	$-5.864 \cdot 10^{-7}$	$1.322 \cdot 10^{-9}$	$1.322 \cdot 10^{-9}$	$-1.211 \cdot 10^{-6}$	
$Hz \to s\bar{s}$	$-8.321 \cdot 10^{-9}$	$-8.321 \cdot 10^{-9}$	$3.125 \cdot 10^{-7}$	$2.836 \cdot 10^{-8}$	$2.836 \cdot 10^{-8}$	$6.347 \cdot 10^{-7}$	
$W^+W^-  o Hd\bar{d}$	$2.722 \cdot 10^{-16}$	$2.722 \cdot 10^{-16}$	$-5.877 \cdot 10^{-7}$	$6.199 \cdot 10^{-18}$	$6.199 \cdot 10^{-18}$	$-1.161 \cdot 10^{-6}$	
$b\bar{b} \to d\bar{d}$	$-7.575 \cdot 10^{-13}$	$-7.575 \cdot 10^{-13}$	$-5.809 \cdot 10^{-7}$	$3.675 \cdot 10^{-13}$	$3.675 \cdot 10^{-13}$	$-1.17 \cdot 10^{-6}$	
$d\bar{d} \to c\bar{c}$	$1.386 \cdot 10^{-12}$	$1.386 \cdot 10^{-12}$	$-5.77 \cdot 10^{-7}$	$2.066 \cdot 10^{-12}$	$2.066 \cdot 10^{-12}$	$-1.162 \cdot 10^{-6}$	
$d\bar{d} \rightarrow e^+e^-$	$1.377 \cdot 10^{-12}$	$1.377 \cdot 10^{-12}$	$-5.809 \cdot 10^{-7}$	$1.499 \cdot 10^{-12}$	$1.499 \cdot 10^{-12}$	$-1.134 \cdot 10^{-6}$	
$d\bar{d} \to s\bar{s}$	$-3.3 \cdot 10^{-10}$	$-3.3 \cdot 10^{-10}$	$3.03 \cdot 10^{-7}$	$6.104 \cdot 10^{-11}$	$6.104 \cdot 10^{-11}$	$6.389 \cdot 10^{-7}$	
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$-3.714 \cdot 10^{-10}$	$-3.714 \cdot 10^{-10}$	$3.231 \cdot 10^{-7}$	$1.108 \cdot 10^{-10}$	$1.108 \cdot 10^{-10}$	$6.319 \cdot 10^{-7}$	
$s\bar{s} \to s\bar{s}$	$2.861 \cdot 10^{-9}$	$2.861 \cdot 10^{-9}$	$3.146 \cdot 10^{-7}$	$3.128 \cdot 10^{-9}$	$3.128 \cdot 10^{-9}$	$6.394 \cdot 10^{-7}$	
$t\bar{t} \to d\bar{d}$	$1.173 \cdot 10^{-11}$	$1.173 \cdot 10^{-11}$	$-5.967 \cdot 10^{-7}$	$3.536 \cdot 10^{-13}$	$3.536 \cdot 10^{-13}$	$-1.159 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$8.789 \cdot 10^{-10}$	$8.789 \cdot 10^{-10}$	$3.072 \cdot 10^{-7}$	$1.018 \cdot 10^{-9}$	$1.018 \cdot 10^{-9}$	$6.875 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$-3.999 \cdot 10^{-12}$	$-3.999 \cdot 10^{-12}$	$-5.751 \cdot 10^{-7}$	$1.203 \cdot 10^{-11}$	$1.203 \cdot 10^{-11}$	$-1.164 \cdot 10^{-6}$	

### 2.78 cdGIm

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$b\bar{b} \to d\bar{d}$	$-5.687 \cdot 10^{-27}$	$-5.185 \cdot 10^{-27}$	$0.088\overline{37}$	$1.409 \cdot 10^{-11}$	$1.409 \cdot 10^{-11}$	$-1.136 \cdot 10^{-6}$		
$d\bar{d} \to c\bar{c}$	$-6.444 \cdot 10^{-35}$	$3.367 \cdot 10^{-33}$	53.26	$2.352 \cdot 10^{-11}$	$2.352 \cdot 10^{-11}$	$-1.19 \cdot 10^{-6}$		
$d\bar{d} \to s\bar{s}$	$-1.105 \cdot 10^{-25}$	$-5.461 \cdot 10^{-26}$	0.5056	$2.34 \cdot 10^{-9}$	$2.34 \cdot 10^{-9}$	$5.984 \cdot 10^{-7}$		
$s\bar{s} \to s\bar{s}$	$9.4 \cdot 10^{-24}$	$1.372 \cdot 10^{-23}$	-0.46	$6.854 \cdot 10^{-8}$	$6.854 \cdot 10^{-8}$	$6.274 \cdot 10^{-7}$		
$t\bar{t} \to d\bar{d}$	$-5.276 \cdot 10^{-27}$	$-5.376 \cdot 10^{-27}$	-0.01901	$4.949 \cdot 10^{-12}$	$4.949 \cdot 10^{-12}$	$-1.172 \cdot 10^{-6}$		
$t\bar{t} \to s\bar{s}$	$4.837 \cdot 10^{-25}$	$1.08 \cdot 10^{-24}$	-1.233	$1.196 \cdot 10^{-8}$	$1.196 \cdot 10^{-8}$	$6.688 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$1.614 \cdot 10^{-27}$	$1.615 \cdot 10^{-27}$	-0.0001099	$1.376 \cdot 10^{-10}$	$1.376 \cdot 10^{-10}$	$-1.163 \cdot 10^{-6}$		

# 2.79 cdGRe

		ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b} \to d\bar{d}$	$-1.398 \cdot 10^{-10}$	$-1.398 \cdot 10^{-10}$	$-6.436 \cdot 10^{-7}$	$2.408 \cdot 10^{-11}$	$2.408 \cdot 10^{-11}$	$-1.163 \cdot 10^{-6}$	
$d\bar{d} \to c\bar{c}$	$-1.398 \cdot 10^{-10}$	$-1.398 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$	$2.405 \cdot 10^{-12}$	$2.405 \cdot 10^{-12}$	$-1.164 \cdot 10^{-6}$	
$d\bar{d} \to s\bar{s}$	$-5.56 \cdot 10^{-8}$	$-5.56 \cdot 10^{-8}$	$3.058 \cdot 10^{-7}$	$6.241 \cdot 10^{-9}$	$6.241 \cdot 10^{-9}$	$6.249 \cdot 10^{-7}$	
$s\bar{s} \to s\bar{s}$	$-1.845 \cdot 10^{-7}$	$-1.845 \cdot 10^{-7}$	$3.251 \cdot 10^{-7}$	$1.404 \cdot 10^{-8}$	$1.404 \cdot 10^{-8}$	$6.411 \cdot 10^{-7}$	
$t\bar{t} \to d\bar{d}$	$-1.567 \cdot 10^{-10}$	$-1.567 \cdot 10^{-10}$	$-6.383 \cdot 10^{-7}$	$3.044 \cdot 10^{-11}$	$3.044 \cdot 10^{-11}$	$-1.183 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$-6.213 \cdot 10^{-8}$	$-6.213 \cdot 10^{-8}$	$3.219 \cdot 10^{-7}$	$9.551 \cdot 10^{-9}$	$9.551 \cdot 10^{-9}$	$6.282 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$-1.461 \cdot 10^{-10}$	$-1.461 \cdot 10^{-10}$	$-6.159 \cdot 10^{-7}$	$5.187 \cdot 10^{-11}$	$5.187 \cdot 10^{-11}$	$-1.176 \cdot 10^{-6}$	

# 2.80 cdHIm

		interfere	nce		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to Hs\bar{s}$	$-1.926 \cdot 10^{-18}$	$-1.926 \cdot 10^{-18}$	$3.115 \cdot 10^{-7}$	$8.181 \cdot 10^{-13}$	$8.181 \cdot 10^{-13}$	$6.356 \cdot 10^{-7}$		
$HH \to W^- u \bar{d}$	$4.38 \cdot 10^{-17}$	$4.38 \cdot 10^{-17}$	$-5.936 \cdot 10^{-7}$	$1.87 \cdot 10^{-15}$	$1.87 \cdot 10^{-15}$	$-1.123 \cdot 10^{-6}$		
$HH \to z d\bar{d}$	$7.911 \cdot 10^{-16}$	$7.911 \cdot 10^{-16}$	$-5.815 \cdot 10^{-7}$	$1.309 \cdot 10^{-15}$	$1.309 \cdot 10^{-15}$	$-1.146 \cdot 10^{-6}$		
$HW^+ \to \gamma u \bar{d}$	$-1.925 \cdot 10^{-16}$	$-1.925 \cdot 10^{-16}$	$-5.715 \cdot 10^{-7}$	$1.576 \cdot 10^{-17}$	$1.576 \cdot 10^{-17}$	$-1.142 \cdot 10^{-6}$		
$HW^+  o u \bar d$	$-2.412 \cdot 10^{-13}$	$-2.412 \cdot 10^{-13}$	$-5.805 \cdot 10^{-7}$	$4.363 \cdot 10^{-11}$	$4.363 \cdot 10^{-11}$	$-1.169 \cdot 10^{-6}$		
$H\gamma \to d\bar{d}$	$8.078 \cdot 10^{-28}$	$3.081 \cdot 10^{-38}$	1	$5.533 \cdot 10^{-13}$	$5.533 \cdot 10^{-13}$	$-1.175 \cdot 10^{-6}$		
$Hz \to s\bar{s}$	$2.034 \cdot 10^{-14}$	$2.034 \cdot 10^{-14}$	$3.442 \cdot 10^{-7}$	$1.75 \cdot 10^{-8}$	$1.75 \cdot 10^{-8}$	$6.286 \cdot 10^{-7}$		
$W^+W^- \to H c \bar c$	$8.855 \cdot 10^{-14}$	$8.855 \cdot 10^{-14}$	$3.162 \cdot 10^{-7}$	$1.728 \cdot 10^{-21}$	$1.728 \cdot 10^{-21}$	$6.367 \cdot 10^{-7}$		
$W^+W^-  o Hd\bar{d}$	$-6.382 \cdot 10^{-17}$	$-6.382 \cdot 10^{-17}$	$-5.797 \cdot 10^{-7}$	$9.453 \cdot 10^{-17}$	$9.453 \cdot 10^{-17}$	$-1.174 \cdot 10^{-6}$		
$b\bar{b}  o d\bar{d}$	$2 \cdot 10^{-31}$	$2.048 \cdot 10^{-31}$	-0.02397	$3.933 \cdot 10^{-16}$	$3.933 \cdot 10^{-16}$	$-1.17 \cdot 10^{-6}$		
$d\bar{d} \to c\bar{c}$	$-2.243 \cdot 10^{-31}$	$-1.597 \cdot 10^{-31}$	0.2878	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$-1.184 \cdot 10^{-6}$		
$d\bar{d} \to e^+e^-$	$-2.293 \cdot 10^{-41}$	$1.853 \cdot 10^{-41}$	1.808	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-1.174 \cdot 10^{-6}$		
$d\bar{d} \to s\bar{s}$	$2.244 \cdot 10^{-34}$	$2.616 \cdot 10^{-34}$	-0.1662	$3.893 \cdot 10^{-19}$	$3.893 \cdot 10^{-19}$	$-2.568 \cdot 10^{-7}$		

$s\bar{s} \to s\bar{s}$	$-2.204 \cdot 10^{-25}$	$5.244 \cdot 10^{-25}$	3.379	$3.891 \cdot 10^{-16}$	$3.891 \cdot 10^{-16}$	$6.168 \cdot 10^{-7}$
$t\bar{t} \to d\bar{d}$	$7.806 \cdot 10^{-28}$	$6.095 \cdot 10^{-28}$	0.2192	$6.323 \cdot 10^{-13}$	$6.323 \cdot 10^{-13}$	$-1.17 \cdot 10^{-6}$
$t\bar{t} \to s\bar{s}$	$2.553 \cdot 10^{-26}$	$7.866 \cdot 10^{-26}$	-2.081	$2.507 \cdot 10^{-10}$	$2.507 \cdot 10^{-10}$	$6.381 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$5.315 \cdot 10^{-36}$	$5.264 \cdot 10^{-36}$	0.009569	$9.679 \cdot 10^{-23}$	$9.679 \cdot 10^{-23}$	$-1.168 \cdot 10^{-6}$

# 2.81 cdHRe

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to H s \bar{s}$	$-1.123 \cdot 10^{-12}$	$-1.123 \cdot 10^{-12}$	$3.563 \cdot 10^{-7}$	$1.218 \cdot 10^{-12}$	$1.218 \cdot 10^{-12}$	$6.57 \cdot 10^{-7}$		
$HH \to W^- u \bar{d}$	$-3.995 \cdot 10^{-15}$	$-3.995 \cdot 10^{-15}$	$-5.757 \cdot 10^{-7}$	$3.459 \cdot 10^{-15}$	$3.459 \cdot 10^{-15}$	$-1.156 \cdot 10^{-6}$		
$HH \to z d\bar{d}$	$-6.407 \cdot 10^{-16}$	$-6.407 \cdot 10^{-16}$	$-5.775 \cdot 10^{-7}$	$2.217 \cdot 10^{-15}$	$2.217 \cdot 10^{-15}$	$-1.173 \cdot 10^{-6}$		
$HW^+ \to \gamma u \bar{d}$	$-6.368 \cdot 10^{-16}$	$-6.368 \cdot 10^{-16}$	$-5.81 \cdot 10^{-7}$	$2.124 \cdot 10^{-16}$	$2.124 \cdot 10^{-16}$	$-1.177 \cdot 10^{-6}$		
$HW^+  o u ar{d}$	$-7.255 \cdot 10^{-12}$	$-7.255 \cdot 10^{-12}$	$-5.927 \cdot 10^{-7}$	$4.368 \cdot 10^{-11}$	$4.368 \cdot 10^{-11}$	$-1.168 \cdot 10^{-6}$		
$H\gamma \to d\bar{d}$	$-8.439 \cdot 10^{-11}$	$-8.439 \cdot 10^{-11}$	$-5.806 \cdot 10^{-7}$	$2.558 \cdot 10^{-12}$	$2.558 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$		
$Hz \to s\bar{s}$	$-9.976 \cdot 10^{-9}$	$-9.976 \cdot 10^{-9}$	$3.208 \cdot 10^{-7}$	$1.776 \cdot 10^{-8}$	$1.776 \cdot 10^{-8}$	$6.758 \cdot 10^{-7}$		
$W^+W^- \to H c \bar c$	$5.982 \cdot 10^{-14}$	$5.982 \cdot 10^{-14}$	$3.176 \cdot 10^{-7}$	$1.182 \cdot 10^{-21}$	$1.182 \cdot 10^{-21}$	$5.922 \cdot 10^{-7}$		
$W^+W^-  o H d \bar d$	$1.647 \cdot 10^{-16}$	$1.647 \cdot 10^{-16}$	$-5.466 \cdot 10^{-7}$	$3.127 \cdot 10^{-17}$	$3.127 \cdot 10^{-17}$	$-1.151 \cdot 10^{-6}$		
$b\bar{b} \to d\bar{d}$	$-1.304 \cdot 10^{-14}$	$-1.304 \cdot 10^{-14}$	$-5.37 \cdot 10^{-7}$	$3.933 \cdot 10^{-16}$	$3.933 \cdot 10^{-16}$	$-1.17 \cdot 10^{-6}$		
$d\bar{d} \to c\bar{c}$	$-1.189 \cdot 10^{-15}$	$-1.189 \cdot 10^{-15}$	$-5.886 \cdot 10^{-7}$	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$-1.184 \cdot 10^{-6}$		
$d\bar{d} \to e^+e^-$	$-6.481 \cdot 10^{-23}$	$-6.481 \cdot 10^{-23}$	$-5.863 \cdot 10^{-7}$	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-1.174 \cdot 10^{-6}$		
$d\bar{d} \to s\bar{s}$	$-1.283 \cdot 10^{-17}$	$-1.283 \cdot 10^{-17}$	$-1.559 \cdot 10^{-7}$	$7.787 \cdot 10^{-19}$	$7.787 \cdot 10^{-19}$	$-2.697 \cdot 10^{-7}$		
$s\bar{s} \to s\bar{s}$	$5.441 \cdot 10^{-8}$	$5.441 \cdot 10^{-8}$	$3.125 \cdot 10^{-7}$	$6.9 \cdot 10^{-16}$	$6.9 \cdot 10^{-16}$	$6.377 \cdot 10^{-7}$		
$t\bar{t} \to d\bar{d}$	$-2.085 \cdot 10^{-11}$	$-2.085 \cdot 10^{-11}$	$-5.756 \cdot 10^{-7}$	$6.323 \cdot 10^{-13}$	$6.323 \cdot 10^{-13}$	$-1.17 \cdot 10^{-6}$		
$t\bar{t} \to s\bar{s}$	$-8.274 \cdot 10^{-9}$	$-8.274 \cdot 10^{-9}$	$3.142 \cdot 10^{-7}$	$2.507 \cdot 10^{-10}$	$2.507 \cdot 10^{-10}$	$6.381 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-1.741 \cdot 10^{-21}$	$-1.741 \cdot 10^{-21}$	$-6.32 \cdot 10^{-7}$	$9.434 \cdot 10^{-23}$	$9.434 \cdot 10^{-23}$	$-1.177 \cdot 10^{-6}$		

# 2.82 cdWIm

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to W^- u \bar{d}$	$2.595 \cdot 10^{-16}$	$2.595 \cdot 10^{-16}$	$-5.781 \cdot 10^{-7}$	$1.091 \cdot 10^{-14}$	$1.091 \cdot 10^{-14}$	$-1.191 \cdot 10^{-6}$		
$HH \to z d\bar{d}$	$-5.188 \cdot 10^{-16}$	$-5.188 \cdot 10^{-16}$	$-5.783 \cdot 10^{-7}$	$1.05 \cdot 10^{-15}$	$1.05 \cdot 10^{-15}$	$-1.143 \cdot 10^{-6}$		
$HW^+ \to \gamma u \bar{d}$	$7.555 \cdot 10^{-16}$	$7.555 \cdot 10^{-16}$	$-5.824 \cdot 10^{-7}$	$1.01 \cdot 10^{-15}$	$1.01 \cdot 10^{-15}$	$-1.089 \cdot 10^{-6}$		
$HW^+ \to u\bar{d}$	$-1.268 \cdot 10^{-13}$	$-1.268 \cdot 10^{-13}$	$-5.519 \cdot 10^{-7}$	$4.468 \cdot 10^{-10}$	$4.468 \cdot 10^{-10}$	$-1.186 \cdot 10^{-6}$		
$H\gamma \to d\bar{d}$	$-1.754 \cdot 10^{-36}$	$-6.254 \cdot 10^{-37}$	0.6434	$4.51 \cdot 10^{-10}$	$4.51 \cdot 10^{-10}$	$-1.175 \cdot 10^{-6}$		
$Hz \to s\bar{s}$	$-7.024 \cdot 10^{-11}$	$-7.024 \cdot 10^{-11}$	$3.132 \cdot 10^{-7}$	$1.269 \cdot 10^{-7}$	$1.269 \cdot 10^{-7}$	$6.304 \cdot 10^{-7}$		
$W^+W^- \to H c \bar{c}$	$-1.003 \cdot 10^{-13}$	$-1.003 \cdot 10^{-13}$	$2.991 \cdot 10^{-7}$	$4.948 \cdot 10^{-19}$	$4.948 \cdot 10^{-19}$	$6.265 \cdot 10^{-7}$		
$W^+W^-  o Hd\bar{d}$	$-2.98 \cdot 10^{-15}$	$-2.98 \cdot 10^{-15}$	$-6.041 \cdot 10^{-7}$	$7.866 \cdot 10^{-15}$	$7.866 \cdot 10^{-15}$	$-1.17 \cdot 10^{-6}$		
$\bar{b}t \to \bar{d}u$	$5.172 \cdot 10^{-26}$	$5.145 \cdot 10^{-26}$	0.005206	$6.993 \cdot 10^{-12}$	$6.993 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$		
$b\bar{b}  o d\bar{d}$	$-1.461 \cdot 10^{-28}$	$-8.802 \cdot 10^{-29}$	0.3974	$2.73 \cdot 10^{-12}$	$2.73 \cdot 10^{-12}$	$-1.172 \cdot 10^{-6}$		
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-1.453 \cdot 10^{-24}$	$-1.488 \cdot 10^{-24}$	-0.02382	$1.218 \cdot 10^{-9}$	$1.218 \cdot 10^{-9}$	$5.748 \cdot 10^{-7}$		
$d\bar{d} \to c\bar{c}$	$1.592 \cdot 10^{-28}$	$1.592 \cdot 10^{-28}$	$-8.177 \cdot 10^{-5}$	$2.043 \cdot 10^{-12}$	$2.043 \cdot 10^{-12}$	$-1.175 \cdot 10^{-6}$		
$d\bar{d} \to e^+e^-$	$-1.191 \cdot 10^{-28}$	$-1.191 \cdot 10^{-28}$	$2.872 \cdot 10^{-5}$	$1.076 \cdot 10^{-12}$	$1.076 \cdot 10^{-12}$	$-1.115 \cdot 10^{-6}$		
$d\bar{d} \to s\bar{s}$	$1.703 \cdot 10^{-26}$	$1.902 \cdot 10^{-26}$	-0.1169	$1.865 \cdot 10^{-9}$	$1.865 \cdot 10^{-9}$	$6.433 \cdot 10^{-7}$		
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$5.135 \cdot 10^{-25}$	$5.135 \cdot 10^{-25}$	$2.727 \cdot 10^{-6}$	$5.607 \cdot 10^{-10}$	$5.607 \cdot 10^{-10}$	$6.42 \cdot 10^{-7}$		
$s\bar{s} \to s\bar{s}$	$-1.38 \cdot 10^{-23}$	$-1.384 \cdot 10^{-23}$	-0.003245	$5.19 \cdot 10^{-8}$	$5.19 \cdot 10^{-8}$	$6.165 \cdot 10^{-7}$		
$t\bar{t} \to d\bar{d}$	$3.719 \cdot 10^{-26}$	$3.69 \cdot 10^{-26}$	0.007732	$4.041 \cdot 10^{-12}$	$4.041 \cdot 10^{-12}$	$-1.163 \cdot 10^{-6}$		
$t\bar{t} \to s\bar{s}$	$2.988 \cdot 10^{-23}$	$3.014 \cdot 10^{-23}$	-0.008639	$1.394 \cdot 10^{-9}$	$1.394 \cdot 10^{-9}$	$5.74 \cdot 10^{-7}$		
$u\bar{d} \to \mu^+ \nu_\mu$	$2.457 \cdot 10^{-27}$	$2.529 \cdot 10^{-27}$	-0.02924	$2.996 \cdot 10^{-12}$	$2.996 \cdot 10^{-12}$	$-1.168 \cdot 10^{-6}$		
$u\bar{d} \to c\bar{s}$	$-9.807 \cdot 10^{-27}$	$1.604 \cdot 10^{-27}$	1.164	$2.357 \cdot 10^{-9}$	$2.357 \cdot 10^{-9}$	$6.365 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-1.466 \cdot 10^{-25}$	$-1.44 \cdot 10^{-25}$	0.01769	$1.426 \cdot 10^{-12}$	$1.426 \cdot 10^{-12}$	$-1.192 \cdot 10^{-6}$		

#### 2.83 cdWRe

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$HH \to W^- u \bar{d}$	$-2.723 \cdot 10^{-15}$	$-2.723 \cdot 10^{-15}$	$-5.876 \cdot 10^{-7}$	$1.642 \cdot 10^{-15}$	$1.642 \cdot 10^{-15}$	$-1.218 \cdot 10^{-6}$	

$HH \to z d\bar{d}$	$-5.707 \cdot 10^{-15}$	$-5.707 \cdot 10^{-15}$	$-5.783 \cdot 10^{-7}$	$7.139 \cdot 10^{-15}$	$7.139 \cdot 10^{-15}$	$-1.177 \cdot 10^{-6}$
$HW^+  o \gamma u \bar{d}$	$1.173 \cdot 10^{-14}$	$1.173 \cdot 10^{-14}$	$-5.965 \cdot 10^{-7}$	$1.78 \cdot 10^{-15}$	$1.78 \cdot 10^{-15}$	$-1.18 \cdot 10^{-6}$
$HW^+ \to u\bar{d}$	$-5.458 \cdot 10^{-11}$	$-5.458 \cdot 10^{-11}$	$-5.863 \cdot 10^{-7}$	$1.981 \cdot 10^{-10}$	$1.981 \cdot 10^{-10}$	$-1.161 \cdot 10^{-6}$
$H\gamma \to d\bar{d}$	$4.209 \cdot 10^{-20}$	$4.209 \cdot 10^{-20}$	$-5.94 \cdot 10^{-7}$	$4.192 \cdot 10^{-10}$	$4.192 \cdot 10^{-10}$	$-1.169 \cdot 10^{-6}$
$Hz \to s\bar{s}$	$-1.554 \cdot 10^{-8}$	$-1.554 \cdot 10^{-8}$	$3.218 \cdot 10^{-7}$	$3.341 \cdot 10^{-7}$	$3.341 \cdot 10^{-7}$	$6.285 \cdot 10^{-7}$
$W^+W^-  o Hc\bar{c}$	$-3.992 \cdot 10^{-12}$	$-3.992 \cdot 10^{-12}$	$3.257 \cdot 10^{-7}$	$4.185 \cdot 10^{-19}$	$4.185 \cdot 10^{-19}$	$6.213 \cdot 10^{-7}$
$W^+W^- \to H d\bar{d}$	$-2.65 \cdot 10^{-14}$	$-2.65 \cdot 10^{-14}$	$-6.037 \cdot 10^{-7}$	$1.358 \cdot 10^{-15}$	$1.358 \cdot 10^{-15}$	$-1.178 \cdot 10^{-6}$
$\bar{b}t \to \bar{d}u$	$-6.859 \cdot 10^{-12}$	$-6.859 \cdot 10^{-12}$	$-5.978 \cdot 10^{-7}$	$9.365 \cdot 10^{-12}$	$9.365 \cdot 10^{-12}$	$-1.175 \cdot 10^{-6}$
$b\bar{b}  o d\bar{d}$	$-1.811 \cdot 10^{-12}$	$-1.811 \cdot 10^{-12}$	$-5.521 \cdot 10^{-7}$	$4.154 \cdot 10^{-12}$	$4.154 \cdot 10^{-12}$	$-1.18 \cdot 10^{-6}$
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-1.402 \cdot 10^{-9}$	$-1.402 \cdot 10^{-9}$	$2.852 \cdot 10^{-7}$	$5.916 \cdot 10^{-10}$	$5.916 \cdot 10^{-10}$	$6.254 \cdot 10^{-7}$
$d\bar{d} \to c\bar{c}$	$-5.189 \cdot 10^{-12}$	$-5.189 \cdot 10^{-12}$	$-5.781 \cdot 10^{-7}$	$2.216 \cdot 10^{-12}$	$2.216 \cdot 10^{-12}$	$-1.173 \cdot 10^{-6}$
$d\bar{d} \to e^+e^-$	$-1.787 \cdot 10^{-12}$	$-1.787 \cdot 10^{-12}$	$-5.596 \cdot 10^{-7}$	$2.442 \cdot 10^{-13}$	$2.442 \cdot 10^{-13}$	$-1.188 \cdot 10^{-6}$
$d\bar{d} \to s\bar{s}$	$1.558 \cdot 10^{-11}$	$1.558 \cdot 10^{-11}$	$2.568 \cdot 10^{-7}$	$3.768 \cdot 10^{-10}$	$3.768 \cdot 10^{-10}$	$6.104 \cdot 10^{-7}$
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	$-4.684 \cdot 10^{-10}$	$-4.684 \cdot 10^{-10}$	$3.202 \cdot 10^{-7}$	$6.026 \cdot 10^{-10}$	$6.026 \cdot 10^{-10}$	$6.306 \cdot 10^{-7}$
$s\bar{s} \to s\bar{s}$	$1.233 \cdot 10^{-7}$	$1.233 \cdot 10^{-7}$	$3.245 \cdot 10^{-7}$	$6.162 \cdot 10^{-8}$	$6.162 \cdot 10^{-8}$	$6.329 \cdot 10^{-7}$
$t\bar{t} \to d\bar{d}$	$1.265 \cdot 10^{-12}$	$1.265 \cdot 10^{-12}$	$-5.533 \cdot 10^{-7}$	$3.957 \cdot 10^{-12}$	$3.957 \cdot 10^{-12}$	$-1.188 \cdot 10^{-6}$
$t\bar{t} \to s\bar{s}$	$-3.544 \cdot 10^{-9}$	$-3.544 \cdot 10^{-9}$	$3.104 \cdot 10^{-7}$	$1.413 \cdot 10^{-9}$	$1.413 \cdot 10^{-9}$	$6.372 \cdot 10^{-7}$
$u\bar{d} \to \mu^+ \nu_\mu$	$-5.563 \cdot 10^{-13}$	$-5.563 \cdot 10^{-13}$	$-5.932 \cdot 10^{-7}$	$1.473 \cdot 10^{-12}$	$1.473 \cdot 10^{-12}$	$-1.154 \cdot 10^{-6}$
$u\bar{d} \to c\bar{s}$	$-1.744 \cdot 10^{-9}$	$-1.744 \cdot 10^{-9}$	$3.441 \cdot 10^{-7}$	$3.437 \cdot 10^{-9}$	$3.437 \cdot 10^{-9}$	$6.401 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$7.414 \cdot 10^{-11}$	$7.414 \cdot 10^{-11}$	$-5.8 \cdot 10^{-7}$	$2.552 \cdot 10^{-11}$	$2.552 \cdot 10^{-11}$	$-1.136 \cdot 10^{-6}$

# 2.84 cdd1

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to s\bar{s}$	0.05244	0.05244	0	3.852	3.852	0	
$s\bar{s} \to s\bar{s}$	-0.887	-0.887	0	3.046	3.046	0	

# 2.85 cdd8

		int	erterence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$d\bar{d} \to s\bar{s}$	0.003707	0.003707	0	0.002502	0.002502	0		
$s\bar{s} \to s\bar{s}$	-2.094	-2.094	$-9.551 \cdot 10^{-8}$	0.7372	0.7372	$-2.035 \cdot 10^{-7}$		

### 2.86 ceBIm

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \rightarrow ze^+e^-$	$3.301 \cdot 10^{-20}$	$3.301 \cdot 10^{-20}$	$-1.606 \cdot 10^{-6}$	$2.859 \cdot 10^{-18}$	$2.859 \cdot 10^{-18}$	$-3.183 \cdot 10^{-6}$	
$HW^- \to \gamma e^- \bar{\nu}_e$	$4.748 \cdot 10^{-19}$	$4.748 \cdot 10^{-19}$	$-1.601 \cdot 10^{-6}$	$1.049 \cdot 10^{-18}$	$1.049 \cdot 10^{-18}$	$-3.242 \cdot 10^{-6}$	
$H\gamma \to e^+e^-$	$-2.546 \cdot 10^{-39}$	$-2.362 \cdot 10^{-39}$	0.07214	$6.464 \cdot 10^{-12}$	$6.464 \cdot 10^{-12}$	$-3.202 \cdot 10^{-6}$	
$Hz \to \mu^+\mu^-$	$1.674 \cdot 10^{-11}$	$1.674 \cdot 10^{-11}$	$-2.986 \cdot 10^{-7}$	$1.278 \cdot 10^{-8}$	$1.278 \cdot 10^{-8}$	$-5.477 \cdot 10^{-7}$	
$\mu^+\mu^- \to \tau^+\tau^-$	$-1.475 \cdot 10^{-24}$	$-8.466 \cdot 10^{-24}$	-4.74	$5.724 \cdot 10^{-7}$	$5.724 \cdot 10^{-7}$	$6.08 \cdot 10^{-6}$	
$b\bar{b} \to \mu^+ \mu^-$	$-1.418 \cdot 10^{-27}$	$1.652 \cdot 10^{-27}$	2.165	$1.224 \cdot 10^{-10}$	$1.224 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$	
$c\bar{c} \to \mu^+ \mu^-$	$3.507 \cdot 10^{-27}$	$5.302 \cdot 10^{-27}$	-0.5119	$3.831 \cdot 10^{-10}$	$3.831 \cdot 10^{-10}$	$-5.482 \cdot 10^{-7}$	
$d\bar{d} \rightarrow e^+e^-$	$1.479 \cdot 10^{-29}$	$1.479 \cdot 10^{-29}$	0.0004398	$2.284 \cdot 10^{-15}$	$2.284 \cdot 10^{-15}$	$-3.196 \cdot 10^{-6}$	
$e^+\nu_{\mu} \to e^+\nu_{\mu}$	$-2.69 \cdot 10^{-30}$	$-2.707 \cdot 10^{-30}$	-0.00626	$1.954 \cdot 10^{-15}$	$1.954 \cdot 10^{-15}$	$-3.225 \cdot 10^{-6}$	
$e^+\nu_e \to e^+\nu_e$	$-1.257 \cdot 10^{-27}$	$-1.257 \cdot 10^{-27}$	$-4.104 \cdot 10^{-5}$	$1.328 \cdot 10^{-14}$	$1.328 \cdot 10^{-14}$	$-3.238 \cdot 10^{-6}$	
$e^+\tau^- \to e^+\tau^-$	$1.764 \cdot 10^{-16}$	$1.764 \cdot 10^{-16}$	$3.062 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$6.129 \cdot 10^{-6}$	
$e^+e^-  o \mu^+\mu^-$	$-1.384 \cdot 10^{-26}$	$-3.185 \cdot 10^{-27}$	0.7699	$1.799 \cdot 10^{-9}$	$1.799 \cdot 10^{-9}$	$-5.56 \cdot 10^{-7}$	
$e^+e^- \rightarrow e^+e^-$	$-7.578 \cdot 10^{-28}$	$-6.701 \cdot 10^{-28}$	0.1158	$9.531 \cdot 10^{-12}$	$9.531 \cdot 10^{-12}$	$-3.21 \cdot 10^{-6}$	
$t\bar{t} \to \tau^+ \tau^-$	$-4.815 \cdot 10^{-22}$	$-4.528 \cdot 10^{-22}$	0.0597	$8.935 \cdot 10^{-8}$	$8.935 \cdot 10^{-8}$	$6.1 \cdot 10^{-6}$	

#### 2.87 ceBRe

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \rightarrow ze^+e^-$	$-1.788 \cdot 10^{-18}$	$-1.788 \cdot 10^{-18}$	$-1.622 \cdot 10^{-6}$	$2.859 \cdot 10^{-18}$	$2.859 \cdot 10^{-18}$	$-3.183 \cdot 10^{-6}$
$HW^- \to \gamma e^- \bar{\nu}_e$	$-5.9 \cdot 10^{-18}$	$-5.9 \cdot 10^{-18}$	$-1.593 \cdot 10^{-6}$	$1.049 \cdot 10^{-18}$	$1.049 \cdot 10^{-18}$	$-3.242 \cdot 10^{-6}$
$H\gamma \to e^+e^-$	$-4.952 \cdot 10^{-23}$	$-4.952 \cdot 10^{-23}$	$-1.616 \cdot 10^{-6}$	$6.464 \cdot 10^{-12}$	$6.464 \cdot 10^{-12}$	$-3.202 \cdot 10^{-6}$
$Hz \to \mu^+\mu^-$	$-5.53 \cdot 10^{-10}$	$-5.53 \cdot 10^{-10}$	$-2.713 \cdot 10^{-7}$	$1.278 \cdot 10^{-8}$	$1.278 \cdot 10^{-8}$	$-6.259 \cdot 10^{-7}$
$\mu^+\mu^- \to \tau^+\tau^-$	$9.683 \cdot 10^{-7}$	$9.682 \cdot 10^{-7}$	$3.036 \cdot 10^{-6}$	$5.724 \cdot 10^{-7}$	$5.724 \cdot 10^{-7}$	$6.062 \cdot 10^{-6}$
$b\bar{b} \to \mu^+ \mu^-$	$2.461 \cdot 10^{-11}$	$2.461 \cdot 10^{-11}$	$-2.845 \cdot 10^{-7}$	$1.224 \cdot 10^{-10}$	$1.224 \cdot 10^{-10}$	$-5.721 \cdot 10^{-7}$
$c\bar{c} \to \mu^+ \mu^-$	$6.167 \cdot 10^{-10}$	$6.167 \cdot 10^{-10}$	$-2.757 \cdot 10^{-7}$	$3.831 \cdot 10^{-10}$	$3.831 \cdot 10^{-10}$	$-5.743 \cdot 10^{-7}$
$d\bar{d} \to e^+ e^-$	$1.269 \cdot 10^{-16}$	$1.269 \cdot 10^{-16}$	$-1.655 \cdot 10^{-6}$	$2.284 \cdot 10^{-15}$	$2.284 \cdot 10^{-15}$	$-3.196 \cdot 10^{-6}$
$e^+\nu_\mu \to e^+\nu_\mu$	$2.348 \cdot 10^{-14}$	$2.348 \cdot 10^{-14}$	$-1.618 \cdot 10^{-6}$	$1.954 \cdot 10^{-15}$	$1.954 \cdot 10^{-15}$	$-3.225 \cdot 10^{-6}$
$e^+\nu_e \to e^+\nu_e$	$4.588 \cdot 10^{-14}$	$4.588 \cdot 10^{-14}$	$-1.591 \cdot 10^{-6}$	$1.328 \cdot 10^{-14}$	$1.328 \cdot 10^{-14}$	$-3.238 \cdot 10^{-6}$
$e^+\tau^- \to e^+\tau^-$	$5.692 \cdot 10^{-7}$	$5.692 \cdot 10^{-7}$	$3.039 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$1.093 \cdot 10^{-6}$	$6.129 \cdot 10^{-6}$
$e^+e^- \to \mu^+\mu^-$	$3.336 \cdot 10^{-9}$	$3.336 \cdot 10^{-9}$	$-2.997 \cdot 10^{-7}$	$1.799 \cdot 10^{-9}$	$1.799 \cdot 10^{-9}$	$-5.56 \cdot 10^{-7}$
$e^+e^- \rightarrow e^+e^-$	$-5.361 \cdot 10^{-12}$	$-5.361 \cdot 10^{-12}$	$-1.604 \cdot 10^{-6}$	$9.531 \cdot 10^{-12}$	$9.531 \cdot 10^{-12}$	$-3.21 \cdot 10^{-6}$
$t\bar{t} \to \tau^+ \tau^-$	$4.693 \cdot 10^{-7}$	$4.693 \cdot 10^{-7}$	$3.047 \cdot 10^{-6}$	$8.935 \cdot 10^{-8}$	$8.935 \cdot 10^{-8}$	$6.099 \cdot 10^{-6}$

### 2.88 ceHIm

			square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH \to H \tau^+ \tau^-$	$-3.209 \cdot 10^{-13}$	$-3.209 \cdot 10^{-13}$	$3.054 \cdot 10^{-6}$	$1.673 \cdot 10^{-10}$	$1.673 \cdot 10^{-10}$	$6.097 \cdot 10^{-6}$
$HH  o W^+ e^- \bar{\nu}_e$	$2.141 \cdot 10^{-17}$	$2.141 \cdot 10^{-17}$	$-1.634 \cdot 10^{-6}$	$5.395 \cdot 10^{-18}$	$5.395 \cdot 10^{-18}$	$-3.225 \cdot 10^{-6}$
$HH \rightarrow ze^+e^-$	$-1.112 \cdot 10^{-17}$	$-1.112 \cdot 10^{-17}$	$-1.618 \cdot 10^{-6}$	$3.985 \cdot 10^{-18}$	$3.985 \cdot 10^{-18}$	$-3.237 \cdot 10^{-6}$
$HW^- \to \gamma e^- \bar{\nu}_e$	$-9.618 \cdot 10^{-20}$	$-9.618 \cdot 10^{-20}$	$-1.612 \cdot 10^{-6}$	$1.216 \cdot 10^{-18}$	$1.216 \cdot 10^{-18}$	$-3.206 \cdot 10^{-6}$
$HW^- \to \mu^- \bar{\nu}_{\mu}$	$4.115 \cdot 10^{-11}$	$4.115 \cdot 10^{-11}$	$-2.916 \cdot 10^{-7}$	$7.486 \cdot 10^{-9}$	$7.486 \cdot 10^{-9}$	$-5.61 \cdot 10^{-7}$
$H\gamma \rightarrow e^+e^-$	$1.01 \cdot 10^{-28}$	$6.982 \cdot 10^{-42}$	1	$3.692 \cdot 10^{-14}$	$3.692 \cdot 10^{-14}$	$-3.196 \cdot 10^{-6}$
$Hz \to \mu^+\mu^-$	$-2.471 \cdot 10^{-15}$	$-2.471 \cdot 10^{-15}$	$-2.833 \cdot 10^{-7}$	$7.492 \cdot 10^{-9}$	$7.492 \cdot 10^{-9}$	$-5.74 \cdot 10^{-7}$
$\mu^+\mu^- \to \tau^+\tau^-$	$3.888 \cdot 10^{-29}$	$9.077 \cdot 10^{-30}$	0.7665	$7.277 \cdot 10^{-14}$	$7.277 \cdot 10^{-14}$	$2.762 \cdot 10^{-6}$
$b\bar{b} \to \mu^+\mu^-$	$1.132 \cdot 10^{-28}$	$1.134 \cdot 10^{-28}$	-0.001548	$6.71 \cdot 10^{-14}$	$6.71 \cdot 10^{-14}$	$-5.663 \cdot 10^{-7}$

$c\bar{c} \to \mu^+ \mu^-$	$-1.03 \cdot 10^{-29}$	$-7.494 \cdot 10^{-30}$	0.2723	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$-5.812 \cdot 10^{-7}$
$d\bar{d} \rightarrow e^+e^-$	$-5.614 \cdot 10^{-39}$	$-2.982 \cdot 10^{-39}$	0.4689	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-3.216 \cdot 10^{-6}$
$e^+\tau^- \to e^+\tau^-$	$-1.159 \cdot 10^{-27}$	$-1.159 \cdot 10^{-27}$	$-1.122 \cdot 10^{-6}$	$1.597 \cdot 10^{-18}$	$1.597 \cdot 10^{-18}$	$1.441 \cdot 10^{-6}$
$e^+e^-  o \mu^+\mu^-$	$3.062 \cdot 10^{-36}$	$-7.655 \cdot 10^{-37}$	1.25	$6.017 \cdot 10^{-21}$	$6.017 \cdot 10^{-21}$	$-1.895 \cdot 10^{-6}$
$e^+e^- \rightarrow e^+e^-$	$-1.825 \cdot 10^{-30}$	$-2.634 \cdot 10^{-30}$	-0.4437	$5.428 \cdot 10^{-25}$	$5.428 \cdot 10^{-25}$	$-3.224 \cdot 10^{-6}$
$t\bar{t} \to \tau^+\tau^-$	$5.009 \cdot 10^{-24}$	$2.114 \cdot 10^{-24}$	0.578	$3.052 \cdot 10^{-8}$	$3.052 \cdot 10^{-8}$	$6.095 \cdot 10^{-6}$

### 2.89 ceHRe

		ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \to H \tau^+ \tau^-$	$-9.046 \cdot 10^{-11}$	$-9.046 \cdot 10^{-11}$	$3.051 \cdot 10^{-6}$	$5.225 \cdot 10^{-11}$	$5.225 \cdot 10^{-11}$	$6.106 \cdot 10^{-6}$
$HH \to W^+ e^- \bar{\nu}_e$	$-2.273 \cdot 10^{-18}$	$-2.273 \cdot 10^{-18}$	$-1.584 \cdot 10^{-6}$	$1.451 \cdot 10^{-18}$	$1.451 \cdot 10^{-18}$	$-3.239 \cdot 10^{-6}$
$HH \rightarrow ze^+e^-$	$4.809 \cdot 10^{-18}$	$4.809 \cdot 10^{-18}$	$-1.601 \cdot 10^{-6}$	$2.468 \cdot 10^{-18}$	$2.468 \cdot 10^{-18}$	$-3.202 \cdot 10^{-6}$
$HW^- \to \gamma e^- \bar{\nu}_e$	$-5.449 \cdot 10^{-20}$	$-5.449 \cdot 10^{-20}$	$-1.596 \cdot 10^{-6}$	$3.036 \cdot 10^{-18}$	$3.036 \cdot 10^{-18}$	$-3.228 \cdot 10^{-6}$
$HW^-  o \mu^- \bar{\nu}_{\mu}$	$-2.683 \cdot 10^{-9}$	$-2.683 \cdot 10^{-9}$	$-2.609 \cdot 10^{-7}$	$7.596 \cdot 10^{-9}$	$7.596 \cdot 10^{-9}$	$-5.793 \cdot 10^{-7}$
$H\gamma \to e^+e^-$	$-4.326 \cdot 10^{-13}$	$-4.326 \cdot 10^{-13}$	$-1.595 \cdot 10^{-6}$	$1.311 \cdot 10^{-14}$	$1.311 \cdot 10^{-14}$	$-3.203 \cdot 10^{-6}$
$Hz \to \mu^+\mu^-$	$1.747 \cdot 10^{-9}$	$1.747 \cdot 10^{-9}$	$-2.863 \cdot 10^{-7}$	$7.454 \cdot 10^{-9}$	$7.454 \cdot 10^{-9}$	$-5.768 \cdot 10^{-7}$
$\mu^+\mu^- \to \tau^+\tau^-$	$-2.368 \cdot 10^{-12}$	$-2.368 \cdot 10^{-12}$	$1.393 \cdot 10^{-6}$	$1.455 \cdot 10^{-13}$	$1.455 \cdot 10^{-13}$	$2.749 \cdot 10^{-6}$
$b\bar{b}  o \mu^+\mu^-$	$-2.222 \cdot 10^{-12}$	$-2.222 \cdot 10^{-12}$	$-2.701 \cdot 10^{-7}$	$6.71 \cdot 10^{-14}$	$6.71 \cdot 10^{-14}$	$-5.663 \cdot 10^{-7}$
$c\bar{c} \to \mu^+ \mu^-$	$-2.069 \cdot 10^{-13}$	$-2.069 \cdot 10^{-13}$	$-2.9 \cdot 10^{-7}$	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$-5.65 \cdot 10^{-7}$
$d\bar{d} \rightarrow e^+e^-$	$-6.424 \cdot 10^{-23}$	$-6.424 \cdot 10^{-23}$	$-1.603 \cdot 10^{-6}$	$1.959 \cdot 10^{-24}$	$1.959 \cdot 10^{-24}$	$-3.216 \cdot 10^{-6}$
$e^+\tau^- \to e^+\tau^-$	$-5.514 \cdot 10^{-17}$	$-5.514 \cdot 10^{-17}$	$7.073 \cdot 10^{-7}$	$3.16 \cdot 10^{-18}$	$3.16 \cdot 10^{-18}$	$1.456 \cdot 10^{-6}$
$e^+e^- \to \mu^+\mu^-$	$-1.996 \cdot 10^{-19}$	$-1.996 \cdot 10^{-19}$	$-9.518 \cdot 10^{-7}$	$1.203 \cdot 10^{-20}$	$1.203 \cdot 10^{-20}$	$-1.911 \cdot 10^{-6}$
$e^+e^- \rightarrow e^+e^-$	$7.49 \cdot 10^{-13}$	$7.49 \cdot 10^{-13}$	$-1.615 \cdot 10^{-6}$	$7.167 \cdot 10^{-25}$	$7.167 \cdot 10^{-25}$	$-3.209 \cdot 10^{-6}$
$t\bar{t} \to  au^+ au^-$	$-1.001 \cdot 10^{-6}$	$-1.001 \cdot 10^{-6}$	$3.097 \cdot 10^{-6}$	$3.052 \cdot 10^{-8}$	$3.052 \cdot 10^{-8}$	$6.095 \cdot 10^{-6}$

#### 2.90 ceWIm

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to W^+ e^- \bar{\nu}_e$	$-8.153 \cdot 10^{-18}$	$-8.153 \cdot 10^{-18}$	$-1.607 \cdot 10^{-6}$	$4.23 \cdot 10^{-18}$	$4.23 \cdot 10^{-18}$	$-3.215 \cdot 10^{-6}$	
$HH \rightarrow ze^+e^-$	$6.164 \cdot 10^{-20}$	$6.164 \cdot 10^{-20}$	$-1.606 \cdot 10^{-6}$	$9.968 \cdot 10^{-18}$	$9.968 \cdot 10^{-18}$	$-3.21 \cdot 10^{-6}$	
$HW^- \to \gamma e^- \bar{\nu}_e$	$-3.111 \cdot 10^{-19}$	$-3.111 \cdot 10^{-19}$	$-1.607 \cdot 10^{-6}$	$3.959 \cdot 10^{-18}$	$3.959 \cdot 10^{-18}$	$-3.208 \cdot 10^{-6}$	
$HW^- \to \mu^- \bar{\nu}_{\mu}$	$-8.845 \cdot 10^{-12}$	$-8.845 \cdot 10^{-12}$	$-2.94 \cdot 10^{-7}$	$2.258 \cdot 10^{-7}$	$2.258 \cdot 10^{-7}$	$-5.314 \cdot 10^{-7}$	
$H\gamma \to e^+e^-$	$1.456 \cdot 10^{-39}$	$9.967 \cdot 10^{-40}$	0.3154	$1.854 \cdot 10^{-12}$	$1.854 \cdot 10^{-12}$	$-3.237 \cdot 10^{-6}$	
$Hz \to \mu^+\mu^-$	$3.127 \cdot 10^{-11}$	$3.127 \cdot 10^{-11}$	$-2.879 \cdot 10^{-7}$	$4.457 \cdot 10^{-8}$	$4.457 \cdot 10^{-8}$	$-5.609 \cdot 10^{-7}$	
$\mu^+\mu^- \to \tau^+\tau^-$	$-4.944 \cdot 10^{-24}$	$4.15 \cdot 10^{-24}$	1.84	$4.025 \cdot 10^{-7}$	$4.025 \cdot 10^{-7}$	$6.087 \cdot 10^{-6}$	
$b\bar{b} \to \mu^+\mu^-$	$-1.073 \cdot 10^{-26}$	$-6.651 \cdot 10^{-27}$	0.3799	$7.701 \cdot 10^{-10}$	$7.701 \cdot 10^{-10}$	$-5.713 \cdot 10^{-7}$	
$b\bar{t} \to e^- \bar{\nu}_e$	$1.792 \cdot 10^{-28}$	$1.776 \cdot 10^{-28}$	0.008802	$3.253 \cdot 10^{-14}$	$3.253 \cdot 10^{-14}$	$-3.197 \cdot 10^{-6}$	
$c\bar{c} \to \mu^+ \mu^-$	$3.551 \cdot 10^{-26}$	$2.537 \cdot 10^{-26}$	0.2855	$7.145 \cdot 10^{-10}$	$7.145 \cdot 10^{-10}$	$-5.598 \cdot 10^{-7}$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-4.46 \cdot 10^{-24}$	$-2.986 \cdot 10^{-24}$	0.3304	$4.042 \cdot 10^{-7}$	$4.042 \cdot 10^{-7}$	$6.11 \cdot 10^{-6}$	
$d\bar{d} \to e^+e^-$	$2.353 \cdot 10^{-29}$	$2.342 \cdot 10^{-29}$	0.004691	$1.438 \cdot 10^{-14}$	$1.438 \cdot 10^{-14}$	$-3.2 \cdot 10^{-6}$	
$e^+\nu_\mu \to e^+\nu_\mu$	$-5.07 \cdot 10^{-30}$	$-5.031 \cdot 10^{-30}$	0.007588	$6.813 \cdot 10^{-15}$	$6.813 \cdot 10^{-15}$	$-3.214 \cdot 10^{-6}$	
$e^+\nu_e \to \mu^+\nu_\mu$	$-2.576 \cdot 10^{-26}$	$-7.746 \cdot 10^{-26}$	-2.007	$3.882 \cdot 10^{-9}$	$3.882 \cdot 10^{-9}$	$-5.667 \cdot 10^{-7}$	
$e^+\nu_e \to e^+\nu_e$	$-2.419 \cdot 10^{-27}$	$-2.42 \cdot 10^{-27}$	-0.0003356	$2.125 \cdot 10^{-14}$	$2.125 \cdot 10^{-14}$	$-3.2 \cdot 10^{-6}$	
$e^+\tau^- \to e^+\tau^-$	$3.608 \cdot 10^{-16}$	$3.608 \cdot 10^{-16}$	$3.049 \cdot 10^{-6}$	$7.546 \cdot 10^{-7}$	$7.546 \cdot 10^{-7}$	$6.096 \cdot 10^{-6}$	
$e^+e^- \rightarrow \mu^+\mu^-$	$-4.883 \cdot 10^{-27}$	$-3.135 \cdot 10^{-26}$	-5.42	$1.265 \cdot 10^{-9}$	$1.265 \cdot 10^{-9}$	$-5.535 \cdot 10^{-7}$	
$e^+e^- \rightarrow e^+e^-$	$-6.456 \cdot 10^{-28}$	$-6.643 \cdot 10^{-28}$	-0.02887	$6.031 \cdot 10^{-12}$	$6.031 \cdot 10^{-12}$	$-3.217 \cdot 10^{-6}$	
$t\bar{t} \to \tau^+ \tau^-$	$-8.269 \cdot 10^{-22}$	$-8.086 \cdot 10^{-22}$	0.02222	$1.603 \cdot 10^{-7}$	$1.603 \cdot 10^{-7}$	$6.113 \cdot 10^{-6}$	
$u\bar{d} \to \mu^+ \nu_{\mu}$	$-2.878 \cdot 10^{-27}$	$-2.872 \cdot 10^{-27}$	0.001949	$9.72 \cdot 10^{-10}$	$9.72 \cdot 10^{-10}$	$-5.761 \cdot 10^{-7}$	

# 2.91 ceWRe

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH  o W^+ e^- \bar{\nu}_e$	$-7.857 \cdot 10^{-18}$	$-7.857 \cdot 10^{-18}$	$-1.604 \cdot 10^{-6}$	$3.368 \cdot 10^{-19}$	$3.368 \cdot 10^{-19}$	$-3.206 \cdot 10^{-6}$	
$HH \rightarrow ze^+e^-$	$-8.779 \cdot 10^{-19}$	$-8.779 \cdot 10^{-19}$	$-1.606 \cdot 10^{-6}$	$9.522 \cdot 10^{-19}$	$9.522 \cdot 10^{-19}$	$-3.214 \cdot 10^{-6}$	

```
HW^- \to \gamma e^- \bar{\nu}_e
                                    5.826 \cdot 10^{-19}
                                                               5.826 \cdot 10^{-19}
                                                                                          -1.596 \cdot 10^{-6}
                                                                                                                                  1.821 \cdot 10^{-18}
                                                                                                                                                          1.821 \cdot 10^{-18}
                                                                                                                                                                                   -3.186 \cdot 10^{-6}
                                 -6.79 \cdot 10^{-9}
                                                               -6.79 \cdot 10^{-9}
                                                                                          -2.798 \cdot 10^{-7}
                                                                                                                                                                                    -5.57 \cdot 10^{-7}
HW^- \to \mu^- \bar{\nu}_{\mu}
                                                                                                                                   2.334 \cdot 10^{-7}
                                                                                                                                                           2.334 \cdot 10^{-7}
H\gamma \to e^+e^-
                                   -1.878 \cdot 10^{-23}
                                                              -1.878 \cdot 10^{-23}
                                                                                          -1.597 \cdot 10^{-6}
                                                                                                                                                          1.591 \cdot 10^{-12}
                                                                                                                                                                                   -3.205 \cdot 10^{-6}
                                                                                                                                  1.591 \cdot 10^{-12}
Hz \rightarrow \mu^{+}\mu^{-}
                                    -1.033 \cdot 10^{-9}
                                                              -1.033 \cdot 10^{-9}
                                                                                          -2.905 \cdot 10^{-7}
                                                                                                                                   1.063 \cdot 10^{-7}
                                                                                                                                                          1.063 \cdot 10^{-7}
                                                                                                                                                                                   -5.645 \cdot 10^{-7}
\mu^+\mu^- \rightarrow \tau^+\tau^-
                                  -7.946 \cdot 10^{-7}
                                                              -7.946 \cdot 10^{-7}
                                                                                          3.045 \cdot 10^{-6}
                                                                                                                                   6.769 \cdot 10^{-7}
                                                                                                                                                          6.769 \cdot 10^{-7}
                                                                                                                                                                                    6.087 \cdot 10^{-6}
                                                                                         -2.804 \cdot 10^{-7}
                                                                                                                                                                                   -5.726 \cdot 10^{-7}
b\bar{b} \to \mu^+\mu^-
                                   -2.497 \cdot 10^{-10}
                                                              -2.497 \cdot 10^{-10}
                                                                                                                                  7.685 \cdot 10^{-10}
                                                                                                                                                          7.685 \cdot 10^{-10}
b\bar{t} \to e^-\bar{\nu}_e
                                  6.486 \cdot 10^{-15}
                                                              6.486 \cdot 10^{-15}
                                                                                          -1.604 \cdot 10^{-6}
                                                                                                                                  1.904 \cdot 10^{-15}
                                                                                                                                                          1.904 \cdot 10^{-15}
                                                                                                                                                                                   -3.256 \cdot 10^{-6}
                                                                                         -2.692 \cdot 10^{-7}
                                                                                                                                                          7.826 \cdot 10^{-10}
c\bar{c} \rightarrow \mu^+\mu^-
                                   -5.943 \cdot 10^{-10}
                                                              -5.943 \cdot 10^{-10}
                                                                                                                                  7.826 \cdot 10^{-10}
                                                                                                                                                                                    -5.75 \cdot 10^{-7}
c\bar{s} \to \tau^+ \nu_{\tau}
                                   -1.505 \cdot 10^{-7}
                                                              -1.505 \cdot 10^{-7}
                                                                                          3.056 \cdot 10^{-6}
                                                                                                                                   3.441 \cdot 10^{-7}
                                                                                                                                                           3.441 \cdot 10^{-7}
                                                                                                                                                                                    6.103 \cdot 10^{-6}
d\bar{d} \rightarrow e^+e^-
                                   -1.234 \cdot 10^{-14}
                                                              -1.234 \cdot 10^{-14}
                                                                                          -1.54 \cdot 10^{-6}
                                                                                                                                  1.746 \cdot 10^{-14}
                                                                                                                                                          1.746 \cdot 10^{-14}
                                                                                                                                                                                   -3.208 \cdot 10^{-6}
e^+\nu_\mu \to e^+\nu_\mu
                                 3.495 \cdot 10^{-13}
                                                               3.495 \cdot 10^{-13}
                                                                                          -1.602 \cdot 10^{-6}
                                                                                                                                  7.398 \cdot 10^{-13}
                                                                                                                                                          7.398 \cdot 10^{-13}
                                                                                                                                                                                   -3.217 \cdot 10^{-6}
                                                                                                                                                                                   -5.625 \cdot 10^{-7}
e^+\nu_e \rightarrow \mu^+\nu_\mu
                                    -5.339 \cdot 10^{-9}
                                                              -5.339 \cdot 10^{-9}
                                                                                          -2.809 \cdot 10^{-7}
                                                                                                                                                           2.489 \cdot 10^{-9}
                                                                                                                                   2.489 \cdot 10^{-9}
e^+\nu_e \rightarrow e^+\nu_e
                                   -4.228 \cdot 10^{-14}
                                                              -4.228 \cdot 10^{-14}
                                                                                          -1.608 \cdot 10^{-6}
                                                                                                                                                           5.91 \cdot 10^{-15}
                                                                                                                                                                                   -3.215 \cdot 10^{-6}
                                                                                                                                   5.91 \cdot 10^{-15}
                                                                                          3.089 \cdot 10^{-6}
e^+\tau^- \rightarrow e^+\tau^-
                                   -1.489 \cdot 10^{-7}
                                                              -1.489 \cdot 10^{-7}
                                                                                                                                                           1.54 \cdot 10^{-6}
                                                                                                                                                                                    6.104 \cdot 10^{-6}
                                                                                                                                   1.54 \cdot 10^{-6}
e^+e^- \rightarrow \mu^+\mu^-
                                 -2.589 \cdot 10^{-9}
                                                              -2.589 \cdot 10^{-9}
                                                                                         -2.704 \cdot 10^{-7}
                                                                                                                                                                                   -5.851 \cdot 10^{-7}
                                                                                                                                   2.222 \cdot 10^{-9}
                                                                                                                                                           2.222 \cdot 10^{-9}
e^+e^- \rightarrow e^+e^-
                                   -2.502 \cdot 10^{-13}
                                                              -2.502 \cdot 10^{-13}
                                                                                          -1.599 \cdot 10^{-6}
                                                                                                                                                          8.985 \cdot 10^{-15}
                                                                                                                                                                                   -3.217 \cdot 10^{-6}
                                                                                                                                  8.985 \cdot 10^{-15}
t\bar{t} \to \tau^+\tau^-
                                   -6.861 \cdot 10^{-8}
                                                              -6.861 \cdot 10^{-8}
                                                                                          3.061 \cdot 10^{-6}
                                                                                                                                   2.122 \cdot 10^{-7}
                                                                                                                                                          2.122 \cdot 10^{-7}
                                                                                                                                                                                    6.079 \cdot 10^{-6}
u\bar{d} \to \mu^+ \nu_\mu
                                    -1.056 \cdot 10^{-9}
                                                              -1.056 \cdot 10^{-9}
                                                                                          -2.842 \cdot 10^{-7}
                                                                                                                                                                                   -5.599 \cdot 10^{-7}
                                                                                                                                   1.607 \cdot 10^{-9}
                                                                                                                                                          1.607 \cdot 10^{-9}
```

#### 2.92 ced

#### 2.93 cee

$\mu^+\mu^- \to \tau^+\tau^-$	0.1024	0.1024	0	0.8359	0.8359	0
$e^+\tau^- \rightarrow e^+\tau^-$	-0.1039	-0.1039	0	0.5393	0.5393	0
$e^+e^- \rightarrow \mu^+\mu^-$	0.06455	0.06455	0	0.5269	0.5269	0
$e^+e^- \rightarrow e^+e^-$	$-3.344 \cdot 10^{-8}$	$-3.344 \cdot 10^{-8}$	0	0.000407	0.000407	0

#### **2.94** ceu

		interfe	erence		square		
	$\verb mod1  \qquad \verb mod2  \qquad 1-\verb mod2  \\ \verb mod1 $			mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$c\bar{c} \to \mu^+ \mu^-$	-0.0002936	-0.0002936	0	0.001797	0.001797	0	

# 2.95 cjQbd1Im

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$\bar{b}t \to \bar{d}u$	$-9.953 \cdot 10^{-16}$	$-9.953 \cdot 10^{-16}$	$-5.928 \cdot 10^{-7}$	$7.195 \cdot 10^{-10}$	$7.195 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$	
$b\bar{b}  o d\bar{d}$	$1.571 \cdot 10^{-28}$	$7.851 \cdot 10^{-29}$	0.5001	$1.439 \cdot 10^{-9}$	$1.439 \cdot 10^{-9}$	$-1.181 \cdot 10^{-6}$	

# 2.96 cjQbd1Re

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$\bar{b}t \to \bar{d}u$	$5.948 \cdot 10^{-12}$	$5.948 \cdot 10^{-12}$	$-5.717 \cdot 10^{-7}$	$7.195 \cdot 10^{-10}$	$7.195 \cdot 10^{-10}$	$-1.168 \cdot 10^{-6}$		
$b\bar{b} \to d\bar{d}$	$1.273 \cdot 10^{-11}$	$1.273 \cdot 10^{-11}$	$-5.498 \cdot 10^{-7}$	$1.439 \cdot 10^{-9}$	$1.439 \cdot 10^{-9}$	$-1.181 \cdot 10^{-6}$		

# 2.97 cjQbd8Im

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$\bar{b}t \to \bar{d}u$	$-1.341 \cdot 10^{-15}$	$-1.341 \cdot 10^{-15}$	$-5.968 \cdot 10^{-7}$	$1.599 \cdot 10^{-10}$	$1.599 \cdot 10^{-10}$	$-1.188 \cdot 10^{-6}$
$b\bar{b} \to d\bar{d}$	$-1.753 \cdot 10^{-28}$	$-1.782 \cdot 10^{-28}$	-0.01656	$3.198 \cdot 10^{-10}$	$3.198 \cdot 10^{-10}$	$-1.157 \cdot 10^{-6}$

### 2.98 cjQbd8Re

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$\bar{b}t \to \bar{d}u$	$7.947 \cdot 10^{-12}$	$7.947 \cdot 10^{-12}$	$-5.789 \cdot 10^{-7}$	$1.599 \cdot 10^{-10}$	$1.599 \cdot 10^{-10}$	$-1.188 \cdot 10^{-6}$		
$b\bar{b} \to d\bar{d}$	$1.528 \cdot 10^{-11}$	$1.528 \cdot 10^{-11}$	$-5.889 \cdot 10^{-7}$	$3.198 \cdot 10^{-10}$	$3.198 \cdot 10^{-10}$	$-1.157 \cdot 10^{-6}$		

# 2.99 cjQtu1Im

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$\bar{b}t \to \bar{d}u$	$8.619 \cdot 10^{-15}$	$8.619 \cdot 10^{-15}$	$-7.193 \cdot 10^{-7}$	$1.539 \cdot 10^{-10}$	$1.539 \cdot 10^{-10}$	$-1.494 \cdot 10^{-6}$		
$t\bar{t} \to c\bar{c}$	$2.171 \cdot 10^{-21}$	$1.24 \cdot 10^{-21}$	0.4289	0.0001065	0.0001065	$2.817 \cdot 10^{-7}$		

# 2.100 cjQtu1Re

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$\bar{b}t \to \bar{d}u$	$5.119 \cdot 10^{-11}$	$5.119 \cdot 10^{-11}$	$-7.229 \cdot 10^{-7}$	$1.539 \cdot 10^{-10}$	$1.539 \cdot 10^{-10}$	$-1.429 \cdot 10^{-6}$		
$t\bar{t} \to c\bar{c}$	$3.008 \cdot 10^{-5}$	$3.008 \cdot 10^{-5}$	$1.33 \cdot 10^{-7}$	0.0001065	0.0001065	$2.817 \cdot 10^{-7}$		

# $2.101 \quad cjQtu8Im$

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$\bar{b}t \to \bar{d}u$	$1.151 \cdot 10^{-14}$	$1.151 \cdot 10^{-14}$	$-6.949 \cdot 10^{-7}$	$3.42 \cdot 10^{-11}$	$3.42 \cdot 10^{-11}$	$-1.462 \cdot 10^{-6}$
$t\bar{t} \to c\bar{c}$	$-6.177 \cdot 10^{-22}$	$-1.548 \cdot 10^{-23}$	0.9749	$2.367 \cdot 10^{-5}$	$2.367 \cdot 10^{-5}$	$2.957 \cdot 10^{-7}$

# 2.102 cjQtu8Re

		interfe	erence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$\bar{b}t \to \bar{d}u$	$6.745 \cdot 10^{-11}$	$6.745 \cdot 10^{-11}$	$-7.264 \cdot 10^{-7}$	$3.42 \cdot 10^{-11}$	$3.42 \cdot 10^{-11}$	$-1.462 \cdot 10^{-6}$		
$t\bar{t} \to c\bar{c}$	$4.597 \cdot 10^{-5}$	$4.597 \cdot 10^{-5}$	$1.305 \cdot 10^{-7}$	$2.367 \cdot 10^{-5}$	$2.367 \cdot 10^{-5}$	$2.957 \cdot 10^{-7}$		

# $2.103 \quad \mathrm{cjd1}$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	-0.01024	-0.01024	0	0.7675	0.7675	0	
$d\bar{d} \to s\bar{s}$	-0.007967	-0.007967	0	0.5741	0.5741	0	
$s\bar{s} \to s\bar{s}$	0.09803	0.09803	0	2.125	2.125	0	
$u\bar{d} \to u\bar{d}$	0.01412	0.01412	0	1	1	0	

# 2.104 cjd8

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	0.5529	0.5529	0	0.1866	0.1866	0	
$d\bar{d} \to s\bar{s}$	0.8713	0.8713	0	0.2941	0.2941	0	
$s\bar{s} \to s\bar{s}$	-3.442	-3.442	0	0.5034	0.5034	0	
$u\bar{d} \to u\bar{d}$	-1.066	-1.066	0	0.2222	0.2222	0	

# 2.105 cje

			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1
$c\bar{c} \to \mu^+ \mu^-$	-0.004188	-0.004188	0	0.1046	0.1046	0
$d\bar{d} \rightarrow e^+e^-$	-0.0005554	-0.0005554	0	0.01334	0.01334	0

# 2.106 cjj11

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	-0.00291	-0.00291	0	0.02801	0.02801	0	
$d\bar{d} \to s\bar{s}$	0.01543	0.01543	0	0.1393	0.1393	0	
$s\bar{s} \to s\bar{s}$	-2.258	-2.258	0	4.312	4.312	0	
$u\bar{d} \to u\bar{d}$	0.1382	0.1382	0	0.5839	0.5839	0	
$u\bar{u} \to c\bar{c}$	0.1075	0.1075	0	0.9723	0.9723	0	
$u\bar{u} \to u\bar{u}$	-0.01023	-0.01023	0	0.2103	0.2103	0	

# $2.107 \quad \mathrm{cjj} 18$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	0.02415	0.02415	0	0.0163	0.0163	0	
$d\bar{d} \to s\bar{s}$	0.5975	0.5975	$-1.674 \cdot 10^{-8}$	0.4033	0.4033	0	
$s\bar{s} \to s\bar{s}$	-0.5877	-0.5877	$-1.702 \cdot 10^{-8}$	0.4305	0.4305	$-2.323 \cdot 10^{-8}$	
$u\bar{d} \to u\bar{d}$	-20.71	-20.71	0	0.7925	0.7925	0	
$u\bar{u} \to c\bar{c}$	0.7236	0.7236	0	0.4884	0.4884	0	
$u\bar{u} \to u\bar{u}$	-0.2994	-0.2994	0	0.3135	0.3135	$-3.19 \cdot 10^{-8}$	

# $2.108 \quad \mathrm{cjj}31$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	0.02293	0.02293	0	0.2208	0.2208	0	
$d\bar{d} \to s\bar{s}$	0.4269	0.4269	0	3.852	3.852	0	
$s\bar{s} \to s\bar{s}$	-1.049	-1.049	0	3.046	3.046	0	
$u\bar{d} \to c\bar{s}$	1.092	1.092	0	10.18	10.18	0	
$u\bar{d} \to u\bar{d}$	-0.01506	-0.01506	0	0.05121	0.05121	0	
$u\bar{u} \to c\bar{c}$	0.05415	0.05415	0	0.4898	0.4898	0	
$u\bar{u} \to u\bar{u}$	-0.1133	-0.1133	0	0.9131	0.9131	0	

# 2.109 cjj38

		interfer	rence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	-0.0006048	-0.0006048	$1.653 \cdot 10^{-8}$	0.0004068	0.0004068	0	
$d\bar{d} \to s\bar{s}$	0.9219	0.9219	$-1.085 \cdot 10^{-8}$	0.6223	0.6223	0	
$s\bar{s} \to s\bar{s}$	-0.001765	-0.001765	$-5.666 \cdot 10^{-8}$	0.01548	0.01548	$-1.938 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-1.627 \cdot 10^{-9}$	$3.999 \cdot 10^{-24}$	1	0.1011	0.1011	0	
$u\bar{d} \to u\bar{d}$	0.3224	0.3224	$6.203 \cdot 10^{-8}$	0.5447	0.5447	$7.343 \cdot 10^{-8}$	
$u\bar{u} \to c\bar{c}$	0.2243	0.2243	0	0.1514	0.1514	0	
$u\bar{u} \to u\bar{u}$	-2.291	-2.291	$-8.73 \cdot 10^{-8}$	0.7199	0.7199	$-1.945 \cdot 10^{-7}$	

# $2.110 \quad cjtQd1Im$

		interfer	rence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$1.847 \cdot 10^{-14}$	$1.847 \cdot 10^{-14}$	$-5.957 \cdot 10^{-7}$	$1.503 \cdot 10^{-10}$	$1.503 \cdot 10^{-10}$	$-1.131 \cdot 10^{-6}$	

$t\bar{t} \to d\bar{d}$	$-8.22 \cdot 10^{-28}$	$-2.719 \cdot 10^{-28}$	0.6692	$1.845 \cdot 10^{-11}$	$1.845 \cdot 10^{-11}$	$-1.192 \cdot 10^{-6}$
$t\bar{t} \to s\bar{s}$	$2.419 \cdot 10^{-24}$	$9.401 \cdot 10^{-25}$	0.6114	$6.291 \cdot 10^{-8}$	$6.291 \cdot 10^{-8}$	$6.199 \cdot 10^{-7}$

# $2.111 \quad cjtQd1Re$

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$\bar{b}t \to \bar{d}u$	$-2.8 \cdot 10^{-11}$	$-2.8 \cdot 10^{-11}$	$-5.715 \cdot 10^{-7}$	$9.935 \cdot 10^{-12}$	$9.935 \cdot 10^{-12}$	$-1.168 \cdot 10^{-6}$		
$t\bar{t} \to d\bar{d}$	$-1.161 \cdot 10^{-10}$	$-1.161 \cdot 10^{-10}$	$-6.03 \cdot 10^{-7}$	$3.394 \cdot 10^{-10}$	$3.394 \cdot 10^{-10}$	$-1.149 \cdot 10^{-6}$		
$t\bar{t} \to s\bar{s}$	$1.5 \cdot 10^{-8}$	$1.5 \cdot 10^{-8}$	$3.334 \cdot 10^{-7}$	$2.84 \cdot 10^{-9}$	$2.84 \cdot 10^{-9}$	$5.987 \cdot 10^{-7}$		

# $2.112 \quad cjtQd8Im$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$1.467 \cdot 10^{-14}$	$1.467 \cdot 10^{-14}$	$-6.134 \cdot 10^{-7}$	$1.19 \cdot 10^{-11}$	$1.19 \cdot 10^{-11}$	$-1.177 \cdot 10^{-6}$	
$t\bar{t} \to d\bar{d}$	$-1.918 \cdot 10^{-27}$	$-1.292 \cdot 10^{-27}$	0.3262	$7.948 \cdot 10^{-12}$	$7.948 \cdot 10^{-12}$	$-1.17 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$4.726 \cdot 10^{-24}$	$-4.627 \cdot 10^{-24}$	1.979	$1.839 \cdot 10^{-8}$	$1.839 \cdot 10^{-8}$	$6.525 \cdot 10^{-7}$	

# 2.113 cjtQd8Re

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$-1.191 \cdot 10^{-10}$	$-1.191 \cdot 10^{-10}$	$-5.877 \cdot 10^{-7}$	$2.227 \cdot 10^{-11}$	$2.227 \cdot 10^{-11}$	$-1.167 \cdot 10^{-6}$	
$t\bar{t} \to d\bar{d}$	$-1.448 \cdot 10^{-10}$	$-1.448 \cdot 10^{-10}$	$-6.214 \cdot 10^{-7}$	$1.458 \cdot 10^{-11}$	$1.458 \cdot 10^{-11}$	$-1.166 \cdot 10^{-6}$	
$t\bar{t} \to s\bar{s}$	$-6.069 \cdot 10^{-8}$	$-6.069 \cdot 10^{-8}$	$3.131 \cdot 10^{-7}$	$6.47 \cdot 10^{-9}$	$6.47 \cdot 10^{-9}$	$6.337 \cdot 10^{-7}$	

# 2.114 cju1

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$d\bar{d} \to c\bar{c}$	0.02074	0.02074	0	0.7475	0.7475	0		
$u\bar{d} \to u\bar{d}$	-0.3257	-0.3257	0	1	1	0		
$u\bar{u} \to c\bar{c}$	0.003575	0.003575	0	0.1339	0.1339	0		
$u\bar{u} \to u\bar{u}$	-0.1033	-0.1033	0	2.472	2.472	0		

# 2.115 cju8

	interference				square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
$d\bar{d} \to c\bar{c}$	0.3222	0.3222	0	0.1087	0.1087	0		
$u\bar{d} \to u\bar{d}$	-3.399	-3.399	0	0.2222	0.2222	0		
$u\bar{u} \to c\bar{c}$	1.083	1.083	0	0.3654	0.3654	0		
$u\bar{u} \to u\bar{u}$	-3.917	-3.917	0	0.4913	0.4913	0		

# 2.116 cjuQb1Im

		interfer	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$\bar{b}t \to \bar{d}u$	$-3.2 \cdot 10^{-16}$	$-3.2 \cdot 10^{-16}$	$-7.187 \cdot 10^{-7}$	$3.848 \cdot 10^{-11}$	$3.848 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$-5.75 \cdot 10^{-29}$	$-4.558 \cdot 10^{-29}$	0.2073	$7.696 \cdot 10^{-11}$	$7.696 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$	

# 2.117 cjuQb1Re

interference square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$\bar{b}t \to \bar{d}u$	$-1.892 \cdot 10^{-12}$	$-1.892 \cdot 10^{-12}$	$-7.399 \cdot 10^{-7}$	$3.848 \cdot 10^{-11}$	$3.848 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$
$b\bar{b} \to u\bar{u}$	$-3.728 \cdot 10^{-12}$	$-3.728 \cdot 10^{-12}$	$-7.242 \cdot 10^{-7}$	$7.696 \cdot 10^{-11}$	$7.696 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$

# 2.118 cjuQb8Im

	interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$\bar{b}t \to \bar{d}u$	$-2.725 \cdot 10^{-30}$	$3.373 \cdot 10^{-30}$	2.238	$8.551 \cdot 10^{-12}$	$8.551 \cdot 10^{-12}$	$-1.45 \cdot 10^{-6}$
$b\bar{b} \to u\bar{u}$	$-6.839 \cdot 10^{-30}$	$-6.32 \cdot 10^{-30}$	0.07585	$1.71 \cdot 10^{-11}$	$1.71 \cdot 10^{-11}$	$-1.403 \cdot 10^{-6}$

# 2.119 cjuQb8Re

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$-4.961 \cdot 10^{-29}$	$-4.961 \cdot 10^{-29}$	0	$8.551 \cdot 10^{-12}$	$8.551 \cdot 10^{-12}$	$-1.45 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$1.061 \cdot 10^{-13}$	$1.061 \cdot 10^{-13}$	$-7.537 \cdot 10^{-7}$	$1.71 \cdot 10^{-11}$	$1.71 \cdot 10^{-11}$	$-1.403 \cdot 10^{-6}$	

# $2.120 \quad cjujd11Im$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	$-1.535 \cdot 10^{-31}$	$-8.845 \cdot 10^{-32}$	0.4238	$6.036 \cdot 10^{-17}$	$6.036 \cdot 10^{-17}$	$-6.13 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-2.754 \cdot 10^{-19}$	$-2.754 \cdot 10^{-19}$	$-2.905 \cdot 10^{-7}$	$5.738 \cdot 10^{-16}$	$5.738 \cdot 10^{-16}$	$-6.099 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$1.679 \cdot 10^{-34}$	$1.678 \cdot 10^{-34}$	0.0007751	$8.029 \cdot 10^{-20}$	$8.029 \cdot 10^{-20}$	$-2.665 \cdot 10^{-6}$	

# 2.121 cjujd11Re

	interference				square		
	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	$-4.437 \cdot 10^{-15}$	$-4.437 \cdot 10^{-15}$	$-3.155 \cdot 10^{-7}$	$1.101 \cdot 10^{-14}$	$1.101 \cdot 10^{-14}$	$-6.358 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-1 \cdot 10^{-15}$	$-1 \cdot 10^{-15}$	$-2.999 \cdot 10^{-7}$	$2.002 \cdot 10^{-16}$	$2.002 \cdot 10^{-16}$	$-5.993 \cdot 10^{-7}$	
$u\bar{d} \rightarrow u\bar{d}$	$-9.232 \cdot 10^{-21}$	$-9.232 \cdot 10^{-21}$	$-1.332 \cdot 10^{-6}$	$9.642 \cdot 10^{-20}$	$9.642 \cdot 10^{-20}$	$-2.666 \cdot 10^{-6}$	

# 2.122 cjujd1Im

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$d\bar{d} \to c\bar{c}$	$-2.411 \cdot 10^{-32}$	$-2.128 \cdot 10^{-30}$	-87.25	$1.914 \cdot 10^{-14}$	$1.914 \cdot 10^{-14}$	$-6.269 \cdot 10^{-7}$		
$u\bar{d} \to c\bar{s}$	$-3.213 \cdot 10^{-18}$	$-3.213 \cdot 10^{-18}$	$-2.801 \cdot 10^{-7}$	$9.582 \cdot 10^{-15}$	$9.582 \cdot 10^{-15}$	$-6.053 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-1.061 \cdot 10^{-34}$	$-1.1 \cdot 10^{-34}$	-0.03666	$1.391 \cdot 10^{-19}$	$1.391 \cdot 10^{-19}$	$-2.731 \cdot 10^{-6}$		

# 2.123 cjujd $1\mathrm{Re}$

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$d\bar{d} \to c\bar{c}$	$-3.871 \cdot 10^{-14}$	$-3.871 \cdot 10^{-14}$	$-3.1\cdot10^{-7}$	$1.914 \cdot 10^{-14}$	$1.914 \cdot 10^{-14}$	$-5.747 \cdot 10^{-7}$		
$u\bar{d} \to c\bar{s}$	$-1.926 \cdot 10^{-14}$	$-1.926 \cdot 10^{-14}$	$-3.115 \cdot 10^{-7}$	$9.582 \cdot 10^{-15}$	$9.582 \cdot 10^{-15}$	$-5.949 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-7.805 \cdot 10^{-21}$	$-7.805 \cdot 10^{-21}$	$-1.332 \cdot 10^{-6}$	$9.933 \cdot 10^{-20}$	$9.933 \cdot 10^{-20}$	$-2.668 \cdot 10^{-6}$		

# 2.124 cjujd81Im

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	$-7.172 \cdot 10^{-31}$	$-3.201 \cdot 10^{-31}$	0.5536	$3.572 \cdot 10^{-15}$	$3.572 \cdot 10^{-15}$	$-5.88 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-1.305 \cdot 10^{-18}$	$-1.305 \cdot 10^{-18}$	$-3.064 \cdot 10^{-7}$	$1.738 \cdot 10^{-15}$	$1.738 \cdot 10^{-15}$	$-5.754 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$2.211 \cdot 10^{-35}$	$2.194 \cdot 10^{-35}$	0.008058	$1.193 \cdot 10^{-20}$	$1.193 \cdot 10^{-20}$	$-2.681 \cdot 10^{-6}$	

### $2.125 \quad \text{cjujd} 81 \text{Re}$

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	$-3.042 \cdot 10^{-15}$	$-3.042 \cdot 10^{-15}$	$-2.958 \cdot 10^{-7}$	$7.913 \cdot 10^{-17}$	$7.913 \cdot 10^{-17}$	$-5.94 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-5.556 \cdot 10^{-15}$	$-5.556 \cdot 10^{-15}$	$-3.06 \cdot 10^{-7}$	$8.816 \cdot 10^{-16}$	$8.816 \cdot 10^{-16}$	$-5.898 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$3.364 \cdot 10^{-20}$	$3.364 \cdot 10^{-20}$	$-1.308 \cdot 10^{-6}$	$1.121 \cdot 10^{-20}$	$1.121 \cdot 10^{-20}$	$-2.676 \cdot 10^{-6}$	

# 2.126 cjujd8 Im

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$d\bar{d} \to c\bar{c}$	$-1.749 \cdot 10^{-31}$	$2.049 \cdot 10^{-31}$	2.172	$4.254 \cdot 10^{-15}$	$4.254 \cdot 10^{-15}$	$-6.112 \cdot 10^{-7}$		
$u\bar{d} \to c\bar{s}$	$8.56 \cdot 10^{-35}$	$1.143 \cdot 10^{-31}$	-1334	$2.129 \cdot 10^{-15}$	$2.129 \cdot 10^{-15}$	$-5.636 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-3.768 \cdot 10^{-35}$	$-3.765 \cdot 10^{-35}$	0.000831	$1.613 \cdot 10^{-20}$	$1.613 \cdot 10^{-20}$	$-2.728 \cdot 10^{-6}$		

# 2.127 cjujd8Re

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	$-1.44 \cdot 10^{-15}$	$-1.44 \cdot 10^{-15}$	$-2.777 \cdot 10^{-7}$	$4.254 \cdot 10^{-15}$	$4.254 \cdot 10^{-15}$	$-5.877 \cdot 10^{-7}$	
$u\bar{d} \to c\bar{s}$	$-8.762 \cdot 10^{-35}$	$-8.762 \cdot 10^{-35}$	0	$2.129 \cdot 10^{-15}$	$2.129 \cdot 10^{-15}$	$-5.636 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$4.02 \cdot 10^{-20}$	$4.02 \cdot 10^{-20}$	$-1.319 \cdot 10^{-6}$	$1.1 \cdot 10^{-20}$	$1.1 \cdot 10^{-20}$	$-2.636 \cdot 10^{-6}$	

#### 2.128 cld

$d\bar{d} \rightarrow e^+e^-$	0.0006223	0.0006223	0	0.01534	0.01534	0
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	0.0004999	0.0004999	0	0.01216	0.01216	0

# 2.129 cle

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$\mu^+\mu^- \to \tau^+\tau^-$	0.09794	0.09794	0	0.8048	0.8048	0	
$e^+\nu_{\mu} \to e^+\nu_{\mu}$	-0.748	-0.748	0	1	1	0	
$e^+\nu_e \to e^+\nu_e$	-0.7951	-0.7951	0	1	1	0	
$e^+\tau^- \to e^+\tau^-$	-10.38	-10.38	0	2	2	0	
$e^+e^-  o \mu^+\mu^-$	0.09465	0.09465	0	0.7778	0.7778	0	
$e^+e^- \rightarrow e^+e^-$	-1.049	-1.049	0	2.11	2.11	0	

# $2.130 \quad cleQt1Im$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$b\bar{t} \to e^- \bar{\nu}_e$	$2.407 \cdot 10^{-16}$	$2.407 \cdot 10^{-16}$	$-1.62 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$	
$t\bar{t} \to  au^+ au^-$	$4.7 \cdot 10^{-23}$	$-9.407 \cdot 10^{-23}$	3.001	$1.738 \cdot 10^{-5}$	$1.738 \cdot 10^{-5}$	$6.1 \cdot 10^{-6}$	

# 2.131 cleQt1Re

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{t} \to e^- \bar{\nu}_e$	$1.425 \cdot 10^{-12}$	$1.425 \cdot 10^{-12}$	$-1.614 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$	
$t\bar{t} \to \tau^+ \tau^-$	$3.431 \cdot 10^{-5}$	$3.431 \cdot 10^{-5}$	$3.06 \cdot 10^{-6}$	$1.738 \cdot 10^{-5}$	$1.738 \cdot 10^{-5}$	$6.1 \cdot 10^{-6}$	

# $2.132 \quad cleQt3Im$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$b\bar{t} \to e^- \bar{\nu}_e$	$2.368 \cdot 10^{-16}$	$2.368 \cdot 10^{-16}$	$-1.605 \cdot 10^{-6}$	$9.316 \cdot 10^{-13}$	$9.316 \cdot 10^{-13}$	$-3.21 \cdot 10^{-6}$	
$t\bar{t} \rightarrow \tau^+\tau^-$	$-2.89 \cdot 10^{-22}$	$4.662 \cdot 10^{-22}$	2 613	0.0002051	0.0002051	$6.094 \cdot 10^{-6}$	

### $2.133 \quad cleQt3Re$

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$b\bar{t} \to e^- \bar{\nu}_e$	$-5.453 \cdot 10^{-12}$	$-5.453 \cdot 10^{-12}$	$-1.596 \cdot 10^{-6}$	$1.125 \cdot 10^{-11}$	$1.125 \cdot 10^{-11}$	$-3.29 \cdot 10^{-6}$	
$t\bar{t} \to \tau^+ \tau^-$	$-3.257 \cdot 10^{-5}$	$-3.257 \cdot 10^{-5}$	$3.07 \cdot 10^{-6}$	$3.491 \cdot 10^{-5}$	$3.491 \cdot 10^{-5}$	$6.102 \cdot 10^{-6}$	

# 2.134 clebQIm

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b}  o \mu^+\mu^-$	$5.228 \cdot 10^{-29}$	$-4.592 \cdot 10^{-26}$	879.5	$6.138 \cdot 10^{-8}$	$6.138 \cdot 10^{-8}$	$-5.702 \cdot 10^{-7}$	
$b\bar{t} \to e^- \bar{\nu}_e$	$-5.961 \cdot 10^{-18}$	$-5.961 \cdot 10^{-18}$	$-1.61 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$	

### 2.135 clebQRe

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$b\bar{b}  o \mu^+\mu^-$	$-2.963 \cdot 10^{-9}$	$-2.963 \cdot 10^{-9}$	$-2.7 \cdot 10^{-7}$	$6.138 \cdot 10^{-8}$	$6.138 \cdot 10^{-8}$	$-5.702 \cdot 10^{-7}$	
$b\bar{t} \to e^-\bar{\nu}_e$	$-3.545 \cdot 10^{-14}$	$-3.545 \cdot 10^{-14}$	$-1.608 \cdot 10^{-6}$	$7.179 \cdot 10^{-13}$	$7.179 \cdot 10^{-13}$	$-3.218 \cdot 10^{-6}$	

#### 2.136 cledjIm

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$8.403 \cdot 10^{-16}$	$8.403 \cdot 10^{-16}$	$3.273 \cdot 10^{-6}$	$2.477 \cdot 10^{-12}$	$2.477 \cdot 10^{-12}$	$6.58 \cdot 10^{-6}$	
$d\bar{d} \rightarrow e^+e^-$	$-1.305 \cdot 10^{-37}$	$-8.866 \cdot 10^{-38}$	0.3204	$1.033 \cdot 10^{-21}$	$1.033 \cdot 10^{-21}$	$-4.453 \cdot 10^{-6}$	
$u\bar{d} \rightarrow \mu^+ \nu_{\mu}$	$7.431 \cdot 10^{-21}$	$7.431 \cdot 10^{-21}$	$-1.05 \cdot 10^{-6}$	$2.208 \cdot 10^{-17}$	$2.208 \cdot 10^{-17}$	$-2.083 \cdot 10^{-6}$	

### 2.137 cledjRe

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-4.943 \cdot 10^{-12}$	$-4.943 \cdot 10^{-12}$	$3.278 \cdot 10^{-6}$	$2.477 \cdot 10^{-12}$	$2.477 \cdot 10^{-12}$	$6.58 \cdot 10^{-6}$	
$d\bar{d} \to e^+e^-$	$-2.088 \cdot 10^{-21}$	$-2.088 \cdot 10^{-21}$	$-2.251 \cdot 10^{-6}$	$1.033 \cdot 10^{-21}$	$1.033 \cdot 10^{-21}$	$-4.453 \cdot 10^{-6}$	
$u\bar{d} \rightarrow \mu^+ \nu_\mu$	$-4.392 \cdot 10^{-17}$	$-4.392 \cdot 10^{-17}$	$-1.047 \cdot 10^{-6}$	$2.208 \cdot 10^{-17}$	$2.208 \cdot 10^{-17}$	$-2.083 \cdot 10^{-6}$	

# 2.138 cleju1Im

		interfere	ence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$c\bar{c} \to \mu^+ \mu^-$	$1.514 \cdot 10^{-30}$	$1.52 \cdot 10^{-30}$	-0.003371	$3.266 \cdot 10^{-12}$	$3.266 \cdot 10^{-12}$	$-3.98 \cdot 10^{-7}$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-1.55 \cdot 10^{-13}$	$-1.55 \cdot 10^{-13}$	$3.29 \cdot 10^{-6}$	$4.619 \cdot 10^{-10}$	$4.619 \cdot 10^{-10}$	$6.473 \cdot 10^{-6}$	
$u\bar{d} \rightarrow \mu^+ \nu_\mu$	$-1.598 \cdot 10^{-21}$	$-1.598 \cdot 10^{-21}$	$-1.001 \cdot 10^{-6}$	$4.724 \cdot 10^{-18}$	$4.724 \cdot 10^{-18}$	$-2.032 \cdot 10^{-6}$	

### 2.139 cleju1Re

$c\bar{c} \to \mu^+ \mu^-$	$6.607 \cdot 10^{-12}$	$6.607 \cdot 10^{-12}$	$-1.968 \cdot 10^{-7}$	$3.266 \cdot 10^{-12}$	$3.266 \cdot 10^{-12}$	$-3.98 \cdot 10^{-7}$
$c\bar{s} \to \tau^+ \nu_{\tau}$	$9.192 \cdot 10^{-10}$	$9.192 \cdot 10^{-10}$	$3.242 \cdot 10^{-6}$	$4.619 \cdot 10^{-10}$	$4.619 \cdot 10^{-10}$	$6.495 \cdot 10^{-6}$
$u\bar{d} \rightarrow \mu^+ \nu_\mu$	$9.451 \cdot 10^{-18}$	$9.451 \cdot 10^{-18}$	$-1.016 \cdot 10^{-6}$	$4.724 \cdot 10^{-18}$	$4.724 \cdot 10^{-18}$	$-2.032 \cdot 10^{-6}$

# 2.140 cleju3Im

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
$c\bar{c} \to \mu^+ \mu^-$	$-6.681 \cdot 10^{-29}$	$1.137 \cdot 10^{-28}$	2.701	$1.31 \cdot 10^{-12}$	$1.31 \cdot 10^{-12}$	$-3.817 \cdot 10^{-7}$		
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-3.156 \cdot 10^{-13}$	$-3.156 \cdot 10^{-13}$	$3.232 \cdot 10^{-6}$	$1.797 \cdot 10^{-9}$	$1.797 \cdot 10^{-9}$	$6.511 \cdot 10^{-6}$		
$u\bar{d} \to \mu^+ \nu_{\mu}$	$-8.78 \cdot 10^{-23}$	$-8.78 \cdot 10^{-23}$	$-1.014 \cdot 10^{-6}$	$2.558 \cdot 10^{-21}$	$2.558 \cdot 10^{-21}$	$-2.033 \cdot 10^{-6}$		

# 2.141 cleju3Re

		interfe	erence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
$c\bar{c} \to \mu^+ \mu^-$	$8.447 \cdot 10^{-12}$	$8.447 \cdot 10^{-12}$	$-1.894 \cdot 10^{-7}$	$4.697 \cdot 10^{-12}$	$4.697 \cdot 10^{-12}$	$-4.045 \cdot 10^{-7}$		
$c\bar{s} \to \tau^+ \nu_{\tau}$	$1.366 \cdot 10^{-9}$	$1.366 \cdot 10^{-9}$	$3.221 \cdot 10^{-6}$	$9.302 \cdot 10^{-10}$	$9.302 \cdot 10^{-10}$	$6.482 \cdot 10^{-6}$		
$u\bar{d} \to \mu^+ \nu_\mu$	$3.201 \cdot 10^{-17}$	$3.201 \cdot 10^{-17}$	$-1.031 \cdot 10^{-6}$	$5.312 \cdot 10^{-17}$	$5.312 \cdot 10^{-17}$	$-2.033 \cdot 10^{-6}$		

# 2.142 clj1

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$		
$c\bar{c} \to \mu^+ \mu^-$	-0.006287	-0.006287	0	0.02681	0.02681	0		
$d\bar{d} \to e^+e^-$	0.001395	0.001395	0	0.007197	0.007197	0		
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	-0.00155	-0.00155	0	0.006583	0.006583	0		
$u\bar{u} \to \nu_e \bar{\nu}_e$	0.0001393	0.0001393	0	0.0007166	0.0007166	0		

# 2.143 clj3

		int	erference		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$c\bar{c} \to \mu^+ \mu^-$	0.03172	0.03172	0	0.1353	0.1353	0	
$c\bar{s} \to \tau^+ \nu_{\tau}$	0.2127	0.2127	0	0.9913	0.9913	0	
$d\bar{d} \to e^+e^-$	0.05948	0.05948	0	0.3068	0.3068	0	
$s\bar{s} \to \nu_{\tau}\bar{\nu}_{\tau}$	0.02776	0.02776	0	0.1179	0.1179	0	
$u\bar{d} \to \mu^+ \nu_{\mu}$	0.005265	0.005265	0	0.02454	0.02454	0	
$u\bar{u} \to \nu_e \bar{\nu}_e$	0.009544	0.009544	0	0.04909	0.04909	0	

# 2.144 cll

		interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$	
$\mu^+\mu^- \to \tau^+\tau^-$	0.02335	0.02335	0	0.1698	0.1698	0	
$\nu_{ au} \bar{\nu}_{ au}  o \nu_{ au} \bar{\nu}_{ au}$	-0.4055	-0.4055	0	4.932	4.932	0	
$ u_e \bar{\nu}_e  o  u_\mu \bar{\nu}_\mu$	0.1306	0.1306	0	0.9439	0.9439	0	
$e^+\nu_\mu \to e^+\nu_\mu$	0.5244	0.5244	0	2.035	2.035	0	
$e^+\nu_e \to e^+\nu_e$	2.291	2.291	0	3.018	3.018	0	
$e^+\tau^- \to e^+\tau^-$	-0.05817	-0.05817	0	0.3076	0.3076	0	
$e^+e^- \rightarrow \mu^+\mu^-$	0.213	0.213	0	1.549	1.549	0	
$e^+e^- \rightarrow e^+e^-$	-8.771	-8.771	0	13.21	13.21	0	

# 2.145 cll1

		interference			square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
HH  o HH	0.02673	0.02673	0	0.0008103	0.0008103	0	

$HH \rightarrow HHH$	$1.79 \cdot 10^{-8}$	$1.79 \cdot 10^{-8}$	0	$8.139 \cdot 10^{-10}$	$8.139 \cdot 10^{-10}$	0
$HH  o H  au^+  au^-$	$3.766 \cdot 10^{-12}$	$3.766 \cdot 10^{-12}$	0	$1.712 \cdot 10^{-13}$	$1.712 \cdot 10^{-13}$	0
$HH  o Hbar{b}$	$4.883 \cdot 10^{-11}$	$4.883 \cdot 10^{-11}$	0	$2.22 \cdot 10^{-12}$	$2.22 \cdot 10^{-12}$	0
$HH \to H s \bar{s}$	$6.476 \cdot 10^{-13}$	$6.476 \cdot 10^{-13}$	0	$2.944 \cdot 10^{-14}$	$2.944 \cdot 10^{-14}$	0
$HH  o Htar{t}$	$2.959 \cdot 10^{-6}$	$2.959 \cdot 10^{-6}$	0	$1.345 \cdot 10^{-7}$	$1.345 \cdot 10^{-7}$	0
$HH \to Hu\bar{u}$	$3.565 \cdot 10^{-17}$	$3.565 \cdot 10^{-17}$	0	$1.621 \cdot 10^{-18}$	$1.621 \cdot 10^{-18}$	0
$HH \rightarrow Hzz$	$5.587 \cdot 10^{-6}$	$5.587 \cdot 10^{-6}$	0	$2.54 \cdot 10^{-7}$	$2.54 \cdot 10^{-7}$	0
$HH  o W^+W^-$	0.1242	0.1242	0	0.003766	0.003766	0
$HH \to W^+W^-\gamma$	$3.439 \cdot 10^{-8}$	$3.439 \cdot 10^{-8}$	0	$1.564 \cdot 10^{-9}$	$1.564 \cdot 10^{-9}$	0
$HH  o W^+ \bar{t} b$	$3.884 \cdot 10^{-7}$	$3.884 \cdot 10^{-7}$	0	$1.766 \cdot 10^{-8}$	$1.766 \cdot 10^{-8}$	0
$HH \to W^+ e^- \bar{\nu}_e$	$1.376 \cdot 10^{-7}$	$1.376 \cdot 10^{-7}$	0	$6.255 \cdot 10^{-9}$	$6.255 \cdot 10^{-9}$	0
$HH \to W^- u \bar{d}$	$1.233 \cdot 10^{-7}$	$1.233 \cdot 10^{-7}$	0	$5.606 \cdot 10^{-9}$	$5.606 \cdot 10^{-9}$	0
$HH  o z\bar{b}b$	$1.399 \cdot 10^{-7}$	$1.399 \cdot 10^{-7}$	0	$6.361 \cdot 10^{-9}$	$6.361 \cdot 10^{-9}$	0
$HH \to z \nu_e \bar{\nu}_e$	$2.029 \cdot 10^{-6}$	$2.029 \cdot 10^{-6}$	0	$9.227 \cdot 10^{-8}$	$9.227 \cdot 10^{-8}$	0
$HH \to z c \bar{c}$	$2.417 \cdot 10^{-7}$	$2.417 \cdot 10^{-7}$	0	$1.099 \cdot 10^{-8}$	$1.099 \cdot 10^{-8}$	0
$HH \to z d\bar{d}$	$1.536 \cdot 10^{-7}$	$1.536 \cdot 10^{-7}$	0	$6.985 \cdot 10^{-9}$	$6.985 \cdot 10^{-9}$	0
$HH \rightarrow ze^+e^-$	$1.705 \cdot 10^{-8}$	$1.705 \cdot 10^{-8}$	0	$7.753 \cdot 10^{-10}$	$7.753 \cdot 10^{-10}$	0
$HH  o zt\bar{t}$	$3.011 \cdot 10^{-6}$	$3.011 \cdot 10^{-6}$	0	$1.369 \cdot 10^{-7}$	$1.369 \cdot 10^{-7}$	0
$HH \rightarrow zz$	3.883	3.883	0	0.1177	0.1177	0
$HW^+ \to \gamma t \bar{b}$	$1.383 \cdot 10^{-7}$	$1.383 \cdot 10^{-7}$	0	$6.287 \cdot 10^{-9}$	$6.287 \cdot 10^{-9}$	0
$HW^+ \rightarrow \gamma u \bar{d}$	$9.963 \cdot 10^{-10}$	$9.963 \cdot 10^{-10}$	0	$4.53 \cdot 10^{-11}$	$4.53 \cdot 10^{-11}$	0
$HW^+ \to u\bar{d}$	0.002777	0.002777	0	$8.418 \cdot 10^{-5}$	$8.418 \cdot 10^{-5}$	0
$HW^-  o \bar{t}b$	0.01191	0.01191	0	0.0003609	0.0003609	0
$HW^- \to \gamma e^- \bar{\nu}_e$	$1.268 \cdot 10^{-8}$	$1.268 \cdot 10^{-8}$	0	$5.763 \cdot 10^{-10}$	$5.763 \cdot 10^{-10}$	0
$HW^-  o \mu^- \bar{\nu}_\mu$	0.0004372	0.0004372	0	$1.325 \cdot 10^{-5}$	$1.325 \cdot 10^{-5}$	0
$H\gamma  o bar{b}$	$1.313 \cdot 10^{-5}$	$1.313 \cdot 10^{-5}$	0	$3.979 \cdot 10^{-7}$	$3.979 \cdot 10^{-7}$	0
$H\gamma \to c\bar{c}$	$1.415 \cdot 10^{-5}$	$1.415\cdot10^{-5}$	0	$4.29 \cdot 10^{-7}$	$4.29 \cdot 10^{-7}$	0
$H\gamma \to d\bar{d}$	$1.403 \cdot 10^{-11}$	$1.403 \cdot 10^{-11}$	0	$4.252 \cdot 10^{-13}$	$4.252 \cdot 10^{-13}$	0
$H\gamma \to e^+e^-$	$6.664 \cdot 10^{-13}$	$6.664 \cdot 10^{-13}$	0	$2.02\cdot10^{-14}$	$2.02\cdot10^{-14}$	0

$H\gamma \to t\bar{t}$	0.1007	0.1007	0	0.003052	0.003052	0
$Hz \to \mu^+\mu^-$	0.0002935	0.0002935	0	$8.897 \cdot 10^{-6}$	$8.897 \cdot 10^{-6}$	0
$Hz \to \nu_{ au} \bar{\nu}_{ au}$	0.0004334	0.0004334	0	$1.314 \cdot 10^{-5}$	$1.314 \cdot 10^{-5}$	0
$Hz \to b\bar{b}$	0.0006315	0.0006315	0	$1.914 \cdot 10^{-5}$	$1.914 \cdot 10^{-5}$	0
$Hz \to s\bar{s}$	0.0004547	0.0004547	0	$1.378 \cdot 10^{-5}$	$1.378 \cdot 10^{-5}$	0
$Hz \to t\bar{t}$	0.3545	0.3545	0	0.01074	0.01074	0
$Hz \to u\bar{u}$	0.00139	0.00139	0	$4.214 \cdot 10^{-5}$	$4.214 \cdot 10^{-5}$	0
$W^+W^-  o Hb\bar{b}$	$8.178 \cdot 10^{-7}$	$8.178 \cdot 10^{-7}$	0	$3.718 \cdot 10^{-8}$	$3.718 \cdot 10^{-8}$	0
$W^+W^- \to Hc\bar{c}$	$1.266 \cdot 10^{-7}$	$1.266 \cdot 10^{-7}$	0	$5.755 \cdot 10^{-9}$	$5.755 \cdot 10^{-9}$	0
$W^+W^- \to H d\bar{d}$	$8.797 \cdot 10^{-7}$	$8.797 \cdot 10^{-7}$	0	$4 \cdot 10^{-8}$	$4\cdot 10^{-8}$	0
$W^+W^- \to H t \bar t$	$1.757 \cdot 10^{-5}$	$1.757 \cdot 10^{-5}$	0	$7.989 \cdot 10^{-7}$	$7.989 \cdot 10^{-7}$	0
$W^+W^-  o W^+W^-$	1.231	1.231	0	0.03732	0.03732	0
$W^+W^- \to \gamma\gamma$	0.03232	0.03232	0	0.0009798	0.0009798	0
$W^+W^- \to \gamma\gamma\gamma$	$2.016 \cdot 10^{-5}$	$2.016 \cdot 10^{-5}$	0	$9.166 \cdot 10^{-7}$	$9.166 \cdot 10^{-7}$	0
$\bar{b}t \to \bar{d}u$	$6.229 \cdot 10^{-5}$	$6.229 \cdot 10^{-5}$	0	$1.888 \cdot 10^{-6}$	$1.888 \cdot 10^{-6}$	0
$\gamma W^+ \to z W^+$	0.0763	0.0763	0	0.002313	0.002313	0
$\mu^+\mu^- \to \tau^+\tau^-$	0.07446	0.07446	0	0.5393	0.5393	0
$\nu_{ au} \bar{\nu}_{ au}  o \nu_{ au} \bar{\nu}_{ au}$	$-4.457 \cdot 10^{-5}$	$-4.457 \cdot 10^{-5}$	0	0.02618	0.02618	0
$\nu_e \bar{\nu}_e  o  u_\mu \bar{\nu}_\mu$	0.1236	0.1236	0	0.8976	0.8976	0
$b\bar{b}  o \gamma \gamma$	$1.175 \cdot 10^{-5}$	$1.175 \cdot 10^{-5}$	0	$3.56 \cdot 10^{-7}$	$3.56 \cdot 10^{-7}$	0
$b\bar{b}  o \mu^+\mu^-$	0.0003483	0.0003483	0	$1.056 \cdot 10^{-5}$	$1.056 \cdot 10^{-5}$	0
$b\bar{b}  o  u_e \bar{ u}_e$	$9.73 \cdot 10^{-5}$	$9.73 \cdot 10^{-5}$	0	$2.949 \cdot 10^{-6}$	$2.949 \cdot 10^{-6}$	0
b ar b  o b ar b	4.462	4.462	0	0.1906	0.1906	0
$b\bar{b}  o d\bar{d}$	0.00111	0.00111	0	$3.365 \cdot 10^{-5}$	$3.365 \cdot 10^{-5}$	0
$b\bar{b}  o t\bar{t}$	0.04086	0.04086	0	0.002831	0.002831	0
$b\bar{b} \to u\bar{u}$	0.0003776	0.0003776	0	$1.145 \cdot 10^{-5}$	$1.145 \cdot 10^{-5}$	0
$b\bar{t} \to e^- \bar{\nu}_e$	0.0001559	0.0001559	0	$4.727 \cdot 10^{-6}$	$4.727 \cdot 10^{-6}$	0
$c\bar{c} \to \mu^+ \mu^-$	0.0001456	0.0001456	0	$4.415 \cdot 10^{-6}$	$4.415 \cdot 10^{-6}$	0
$c\bar{s} \to \tau^+ \nu_{\tau}$	0.0003606	0.0003606	0	$1.093 \cdot 10^{-5}$	$1.093 \cdot 10^{-5}$	0

$d\bar{d} \to c\bar{c}$	0.0007126	0.0007126	0	$2.16 \cdot 10^{-5}$	$2.16 \cdot 10^{-5}$	0
$d\bar{d} \to e^+e^-$	0.0002775	0.0002775	0	$8.412 \cdot 10^{-6}$	$8.412 \cdot 10^{-6}$	0
$d\bar{d} \to s\bar{s}$	0.001352	0.001352	0	$4.099 \cdot 10^{-5}$	$4.099 \cdot 10^{-5}$	0
$e^+\nu_\mu \to e^+\nu_\mu$	0.03568	0.03568	0	0.001081	0.001081	0
$e^+\nu_e \to \mu^+\nu_\mu$	0.01084	0.01084	0	0.05085	0.05085	0
$e^+\nu_e \to e^+\nu_e$	2.134	2.134	0	3.048	3.048	0
$e^+\tau^- \to e^+\tau^-$	-11.66	-11.66	0	2.889	2.889	0
$e^+e^- \rightarrow \mu^+\mu^-$	0.07886	0.07886	0	0.5714	0.5714	0
$e^+e^- \rightarrow e^+e^-$	-2.024	-2.024	0	9.248	9.248	0
$s\bar{s} \to \nu_{ au} \bar{\nu}_{ au}$	0.0003674	0.0003674	0	$1.114 \cdot 10^{-5}$	$1.114\cdot10^{-5}$	0
$s\bar{s} \to s\bar{s}$	-0.006106	-0.006106	0	$2.779 \cdot 10^{-5}$	$2.779 \cdot 10^{-5}$	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	0.0003271	0.0003271	0	$9.915 \cdot 10^{-6}$	$9.915 \cdot 10^{-6}$	0
$t\bar{t} \to \tau^+ \tau^-$	0.0002102	0.0002102	0	$6.372 \cdot 10^{-6}$	$6.372 \cdot 10^{-6}$	0
$t\bar{t} \to c\bar{c}$	0.0008606	0.0008606	0	$2.609 \cdot 10^{-5}$	$2.609 \cdot 10^{-5}$	0
$t\bar{t}  o d\bar{d}$	$2.15 \cdot 10^{-5}$	$2.15 \cdot 10^{-5}$	0	$6.519 \cdot 10^{-7}$	$6.519 \cdot 10^{-7}$	0
$t\bar{t} \to s\bar{s}$	0.0003008	0.0003008	0	$9.119 \cdot 10^{-6}$	$9.119 \cdot 10^{-6}$	0
$t\bar{t} \to t\bar{t}$	-0.04953	-0.04953	0	0.003546	0.003546	0
$u\bar{d} \to \mu^+ \nu_{\mu}$	0.001731	0.001731	0	$5.246 \cdot 10^{-5}$	$5.246 \cdot 10^{-5}$	0
$u\bar{d} \rightarrow c\bar{s}$	0.00195	0.00195	0	$5.911 \cdot 10^{-5}$	$5.911\cdot10^{-5}$	0
$u\bar{d} \to u\bar{d}$	-0.006315	-0.006315	0	0.0001474	0.0001474	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	$7.998 \cdot 10^{-5}$	$7.998 \cdot 10^{-5}$	0	$2.424 \cdot 10^{-6}$	$2.424 \cdot 10^{-6}$	0
$u\bar{u} \to c\bar{c}$	0.001011	0.001011	0	$3.065 \cdot 10^{-5}$	$3.065 \cdot 10^{-5}$	0
$u\bar{u} \to u\bar{u}$	-0.002296	-0.002296	0	$1.142 \cdot 10^{-5}$	$1.142\cdot10^{-5}$	0
$zz \to W^+W^-$	29.12	29.12	0	0.8827	0.8827	0
$zz \to zz$	0.009838	0.009838	0	0.0002982	0.0002982	0

### 2.146 clu

interference

square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$c\bar{c} \to \mu^+ \mu^-$	-0.02322	-0.02322	0	0.2862	0.2862	0
$u\bar{u} \rightarrow \nu_e \bar{\nu}_e$	-0.003025	-0.003025	0	0.03681	0.03681	0

# 2.147 ctBIm

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to z t \bar t$	$-1.94 \cdot 10^{-6}$	$-1.94 \cdot 10^{-6}$	0	$3.6 \cdot 10^{-5}$	$3.6 \cdot 10^{-5}$	0	
$HW^+ \to \gamma t \bar{b}$	$4.736 \cdot 10^{-6}$	$4.736 \cdot 10^{-6}$	0	$3.934 \cdot 10^{-6}$	$3.934 \cdot 10^{-6}$	0	
$H\gamma \to t\bar{t}$	$-1.633 \cdot 10^{-16}$	$-1.633 \cdot 10^{-16}$	0	1.461	1.461	0	
$Hz \to t\bar{t}$	$-2.318 \cdot 10^{-5}$	$-2.318 \cdot 10^{-5}$	0	0.8384	0.8384	0	
$W^+W^-  o H t \bar t$	$-8.566 \cdot 10^{-8}$	$-8.566 \cdot 10^{-8}$	0	$4.192 \cdot 10^{-8}$	$4.192 \cdot 10^{-8}$	0	
$b\bar{b}  o t\bar{t}$	$5.395 \cdot 10^{-19}$	$6.359 \cdot 10^{-19}$	-0.1786	0.0007249	0.0007249	0	
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$1.35 \cdot 10^{-20}$	$1.35 \cdot 10^{-20}$	0	$2.318 \cdot 10^{-5}$	$2.318 \cdot 10^{-5}$	0	
$t\bar{t} \to \tau^+ \tau^-$	$1.631 \cdot 10^{-21}$	$1.631 \cdot 10^{-21}$	0	0.0008119	0.0008119	0	
$t\bar{t} \to c\bar{c}$	$2.722 \cdot 10^{-18}$	$2.722 \cdot 10^{-18}$	$-4.335 \cdot 10^{-6}$	0.001855	0.001855	0	
$t\bar{t} \to d\bar{d}$	$-1.856 \cdot 10^{-18}$	$-1.856 \cdot 10^{-18}$	$-6.358 \cdot 10^{-6}$	0.0009481	0.0009481	0	
$t\bar{t} \to s\bar{s}$	$-1.196 \cdot 10^{-18}$	$-1.196 \cdot 10^{-18}$	$-9.867 \cdot 10^{-6}$	0.0009636	0.0009636	0	
$t\bar{t} \to t\bar{t}$	$4.967 \cdot 10^{-17}$	$4.873 \cdot 10^{-17}$	0.01894	0.0195	0.0195	0	

### 2.148 ctBRe

		interfer	rence	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \to z t \bar t$	$1.058 \cdot 10^{-6}$	$1.058 \cdot 10^{-6}$	0	$1.123 \cdot 10^{-5}$	$1.123 \cdot 10^{-5}$	0
$HW^+  o \gamma t \bar{b}$	$2.786 \cdot 10^{-7}$	$2.786 \cdot 10^{-7}$	0	$9.023 \cdot 10^{-7}$	$9.023 \cdot 10^{-7}$	0
$H\gamma \to t\bar{t}$	0.9155	0.9155	0	0.9762	0.9762	0
$Hz \to t\bar{t}$	-0.01895	-0.01895	0	0.8477	0.8477	0

$W^+W^-  o H t \bar t$	$-5.873 \cdot 10^{-8}  -5.873 \cdot 10$	$^{-8}$ 0	$3.103 \cdot 10^{-8}$	$3.103 \cdot 10^{-8}$	0
$b\bar{b}  o t\bar{t}$	$0.007662 \qquad 0.007662$	0	0.000799	0.000799	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	0.0002679 0.0002679	0	0.0007281	0.0007281	0
$t\bar{t} \to \tau^+ \tau^-$	-0.003761 $-0.003763$	1 0	0.001541	0.001541	0
$t\bar{t} \to c\bar{c}$	-0.004253 $-0.004253$	3 0	0.002036	0.002036	0
$t\bar{t} \to d\bar{d}$	-0.0001566  -0.000156	6 0	0.0008601	0.0008601	0
$t\bar{t} \to s\bar{s}$	$-6.576 \cdot 10^{-5}  -6.576 \cdot 10$	$^{-5}$ 0	0.001035	0.001035	0
$t \bar t  o t \bar t$	0.2334 $0.2334$	0	0.1225	0.1225	0

# 2.149 ctGIm

		interfere		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$b\bar{b}  o t\bar{t}$	$1.245 \cdot 10^{-17}$	$1.245 \cdot 10^{-17}$	0	0.02824	0.02824	0
$gg \to t\bar{t}$	$5.079 \cdot 10^{-18}$	$5.079 \cdot 10^{-18}$	0	0.09006	0.09006	0
$t\bar{t} \to c\bar{c}$	$8.387 \cdot 10^{-25}$	$1.025 \cdot 10^{-24}$	-0.2226	0.02492	0.02492	0
$t\bar{t} \to d\bar{d}$	$-6.798 \cdot 10^{-29}$	$7.353 \cdot 10^{-24}$	$1.082\cdot 10^5$	0.03743	0.03743	0
$t\bar{t} \to s\bar{s}$	$-7.357 \cdot 10^{-25}$	$5.146 \cdot 10^{-24}$	7.995	0.03753	0.03753	0
$t\bar{t} \to t\bar{t}$	$8.442 \cdot 10^{-18}$	$-1.864 \cdot 10^{-19}$	1.022	1.296	1.296	0

# 2.150 ctGRe

		interior	erference		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
$b\bar{b} \to t\bar{t}$	-0.07123	-0.07123	0	0.0415	0.0415	0		
$gg \to t\bar{t}$	-0.309	-0.309	0	0.1033	0.1033	0		
$t\bar{t} \to c\bar{c}$	-0.1986	-0.1986	0	0.04178	0.04178	0		
$t\bar{t} \to d\bar{d}$	-0.1986	-0.1986	0	0.03382	0.03382	0		
$t\bar{t} \to s\bar{s}$	-0.1986	-0.1986	0	0.04355	0.04355	0		

 $t\bar{t} \to t\bar{t}$  -0.1481 -0.1481 0 0.3288 0.3288 0

# 2.151 ctHIm

		ence		square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH  o Htar{t}$	$3.156 \cdot 10^{-6}$	$3.156 \cdot 10^{-6}$	0	$4.11 \cdot 10^{-5}$	$4.11\cdot 10^{-5}$	0
$HH \to W^+ \bar{t} b$	$1.612 \cdot 10^{-6}$	$1.612 \cdot 10^{-6}$	0	$1.965 \cdot 10^{-5}$	$1.965 \cdot 10^{-5}$	0
$HH  o zt\bar{t}$	$3.576 \cdot 10^{-7}$	$3.576 \cdot 10^{-7}$	0	$1.763 \cdot 10^{-5}$	$1.763 \cdot 10^{-5}$	0
$HW^+ \to \gamma t \bar{b}$	$2.322 \cdot 10^{-7}$	$2.322 \cdot 10^{-7}$	0	$1.165 \cdot 10^{-7}$	$1.165 \cdot 10^{-7}$	0
$HW^-  o \bar{t}b$	-0.001239	-0.001239	0	0.05759	0.05759	0
$H\gamma \to t\bar{t}$	$1.044 \cdot 10^{-17}$	$1.044 \cdot 10^{-17}$	0	0.001865	0.001865	0
$Hz \to t\bar{t}$	$-3.021 \cdot 10^{-5}$	$-3.021 \cdot 10^{-5}$	0	0.06915	0.06915	0
$W^+W^-  o Hb\bar b$	$-2.695 \cdot 10^{-7}$	$-2.695 \cdot 10^{-7}$	0	$1.026 \cdot 10^{-8}$	$1.026 \cdot 10^{-8}$	0
$W^+W^- \to H t \bar t$	$9.042 \cdot 10^{-7}$	$9.042 \cdot 10^{-7}$	0	$7.195 \cdot 10^{-7}$	$7.195 \cdot 10^{-7}$	0
$b\bar{b}  o t\bar{t}$	$-1.496 \cdot 10^{-21}$	$-1.496 \cdot 10^{-21}$	0	$5.466 \cdot 10^{-7}$	$5.466 \cdot 10^{-7}$	0
$t\bar{t} \to \tau^+ \tau^-$	$5.23 \cdot 10^{-23}$	$5.23 \cdot 10^{-23}$	0	$3.492 \cdot 10^{-8}$	$3.492 \cdot 10^{-8}$	0
$t\bar{t} \to c\bar{c}$	$1.769 \cdot 10^{-24}$	$9.646 \cdot 10^{-25}$	0.4547	$5.351 \cdot 10^{-8}$	$5.351 \cdot 10^{-8}$	0
$t\bar{t} \to d\bar{d}$	$-1.503 \cdot 10^{-27}$	$-1.503 \cdot 10^{-27}$	0	$7.236 \cdot 10^{-13}$	$7.236 \cdot 10^{-13}$	0
$t\bar{t} \to s\bar{s}$	$2.104 \cdot 10^{-25}$	$2.104 \cdot 10^{-25}$	0	$2.87 \cdot 10^{-10}$	$2.87 \cdot 10^{-10}$	0
$t\bar{t} \to t\bar{t}$	$-2.585 \cdot 10^{-18}$	$-2.329 \cdot 10^{-18}$	0.09905	0.004982	0.004982	0

### 2.152 ctHRe

		interfere	ence	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH  o Ht ar{t}$	$5.331 \cdot 10^{-5}$	$5.331 \cdot 10^{-5}$	0	$3.133 \cdot 10^{-5}$	$3.133 \cdot 10^{-5}$	0
$HH \to W^+ \bar{t} b$	0.001331	0.001331	0	0.0004963	0.0004963	0
$HH \to z t \bar{t}$	$-4.509 \cdot 10^{-6}$	$-4.509 \cdot 10^{-6}$	0	$2.301 \cdot 10^{-6}$	$2.301 \cdot 10^{-6}$	0

$HW^+  o \gamma t \bar{b}$	$7.77 \cdot 10^{-8}$	$7.77 \cdot 10^{-8}$	0	$2.636 \cdot 10^{-9}$	$2.636 \cdot 10^{-9}$	0
$HW^-  o ar t b$	0.01818	0.01818	0	0.04963	0.04963	0
$H\gamma \to t\bar{t}$	-0.05482	-0.05482	0	0.001675	0.001675	0
$Hz \to t\bar{t}$	-0.05194	-0.05194	0	0.06144	0.06144	0
$W^+W^- \to H b \bar b$	$1.872 \cdot 10^{-6}$	$1.872 \cdot 10^{-6}$	0	$7.194 \cdot 10^{-8}$	$7.194 \cdot 10^{-8}$	0
$W^+W^-  o H t \bar t$	$-2.67 \cdot 10^{-6}$	$-2.67 \cdot 10^{-6}$	0	$1.143 \cdot 10^{-6}$	$1.143 \cdot 10^{-6}$	0
$b\bar{b}  o t\bar{t}$	$-1.025 \cdot 10^{-5}$	$-1.025 \cdot 10^{-5}$	0	$4.813 \cdot 10^{-7}$	$4.813 \cdot 10^{-7}$	0
$t\bar{t} \to \tau^+ \tau^-$	$-1.003 \cdot 10^{-6}$	$-1.003 \cdot 10^{-6}$	0	$3.099 \cdot 10^{-8}$	$3.099 \cdot 10^{-8}$	0
$t\bar{t} \to c\bar{c}$	$-1.547 \cdot 10^{-6}$	$-1.547 \cdot 10^{-6}$	0	$4.749 \cdot 10^{-8}$	$4.749 \cdot 10^{-8}$	0
$t\bar{t} \to d\bar{d}$	$-2.094 \cdot 10^{-11}$	$-2.094 \cdot 10^{-11}$	0	$6.421 \cdot 10^{-13}$	$6.421 \cdot 10^{-13}$	0
$t\bar{t} \to s\bar{s}$	$-8.306 \cdot 10^{-9}$	$-8.306 \cdot 10^{-9}$	0	$2.547 \cdot 10^{-10}$	$2.547 \cdot 10^{-10}$	0
$t\bar{t} \to t\bar{t}$	0.04887	0.04887	0	0.008581	0.008581	0

# 2.153 ctWIm

		interfere	ence	square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH  o W^+ \bar t b$	$-2.586 \cdot 10^{-5}$	$-2.586 \cdot 10^{-5}$	0	$2.952 \cdot 10^{-5}$	$2.952 \cdot 10^{-5}$	0
$HH \to z t \bar{t}$	$-3.478 \cdot 10^{-8}$	$-3.478 \cdot 10^{-8}$	0	$9.436 \cdot 10^{-6}$	$9.436 \cdot 10^{-6}$	0
$HW^+  o \gamma t \bar{b}$	$2.181 \cdot 10^{-8}$	$2.181 \cdot 10^{-8}$	0	$2.26 \cdot 10^{-6}$	$2.26 \cdot 10^{-6}$	0
$HW^- \to \bar{t}b$	0.002096	0.002096	0	0.4478	0.4478	0
$H\gamma \to t\bar{t}$	$9.107 \cdot 10^{-18}$	$9.107 \cdot 10^{-18}$	0	0.5354	0.5354	0
$Hz \to t\bar{t}$	-0.0004591	-0.0004591	0	2.043	2.043	0
$W^+W^-  o Hb\bar{b}$	$3.335 \cdot 10^{-7}$	$3.335 \cdot 10^{-7}$	0	$3.531 \cdot 10^{-6}$	$3.531 \cdot 10^{-6}$	0
$W^+W^-  o H t \bar t$	$-8.982 \cdot 10^{-6}$	$-8.982 \cdot 10^{-6}$	0	$2.516 \cdot 10^{-5}$	$2.516 \cdot 10^{-5}$	0
$\bar{b}t \to \bar{d}u$	$-4.689 \cdot 10^{-18}$	$-4.689 \cdot 10^{-18}$	0	0.004178	0.004178	0
$b\bar{b}  o t\bar{t}$	$3.487 \cdot 10^{-17}$	$3.487 \cdot 10^{-17}$	0	0.1686	0.1686	0
$b\bar{t} \to e^- \bar{\nu}_e$	$1.235 \cdot 10^{-19}$	$1.235 \cdot 10^{-19}$	0	0.003517	0.003517	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	$-1.086 \cdot 10^{-18}$	$-1.086 \cdot 10^{-18}$	0	0.001881	0.001881	0

$t\bar{t} \to \tau^+ \tau^-$	$-2.106 \cdot 10^{-20}$	$-2.106 \cdot 10^{-20}$	0	0.001771	0.001771	0
$t\bar{t} \to c\bar{c}$	$1.159 \cdot 10^{-18}$	$1.159 \cdot 10^{-18}$	$7.621 \cdot 10^{-5}$	0.005282	0.005282	0
$t\bar{t} \to d\bar{d}$	$-2.933 \cdot 10^{-18}$	$-2.933 \cdot 10^{-18}$	0	0.003988	0.003988	0
$t\bar{t} \to s\bar{s}$	$8.016 \cdot 10^{-19}$	$8.016 \cdot 10^{-19}$	0	0.005586	0.005586	0
$t\bar{t}  o t\bar{t}$	$9.743 \cdot 10^{-17}$	$9.802 \cdot 10^{-17}$	-0.006062	0.07748	0.07748	0

# 2.154 ctWRe

		ence		square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH \to W^+ \bar{t} b$	$1.297 \cdot 10^{-5}$	$1.297 \cdot 10^{-5}$	0	$6.254 \cdot 10^{-5}$	$6.254 \cdot 10^{-5}$	0
$HH  o zt\bar{t}$	$-1.976 \cdot 10^{-6}$	$-1.976 \cdot 10^{-6}$	0	$3.915 \cdot 10^{-5}$	$3.915 \cdot 10^{-5}$	0
$HW^+  o \gamma t \bar{b}$	$3.678 \cdot 10^{-7}$	$3.678 \cdot 10^{-7}$	0	$1.353 \cdot 10^{-6}$	$1.353 \cdot 10^{-6}$	0
$HW^-  o \bar{t}b$	0.293	0.293	0	1.598	1.598	0
$H\gamma \to t\bar{t}$	0.4903	0.4903	0	0.2799	0.2799	0
$Hz \to t\bar{t}$	0.03539	0.03539	0	2.956	2.956	0
$W^+W^- \to H b \bar b$	$-1.347 \cdot 10^{-6}$	$-1.347 \cdot 10^{-6}$	0	$5.66 \cdot 10^{-6}$	$5.66 \cdot 10^{-6}$	0
$W^+W^-  o H t \bar t$	$-4.991 \cdot 10^{-8}$	$-4.991 \cdot 10^{-8}$	0	$2.388 \cdot 10^{-5}$	$2.388 \cdot 10^{-5}$	0
$\bar{b}t \to \bar{d}u$	-0.001489	-0.001489	0	0.004206	0.004206	0
$b\bar{b}  o t\bar{t}$	0.3029	0.3029	0	0.3773	0.3773	0
$b\bar{t} \to e^- \bar{\nu}_e$	-0.003413	-0.003413	0	0.004367	0.004367	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	-0.0005002	-0.0005002	0	0.002539	0.002539	0
$t\bar{t} \to \tau^+ \tau^-$	-0.002962	-0.002962	0	0.001083	0.001083	0
$t\bar{t} \to c\bar{c}$	-0.008005	-0.008005	0	0.003798	0.003798	0
$t\bar{t}  o d\bar{d}$	-0.0008936	-0.0008936	0	0.005413	0.005413	0
$t\bar{t} \to s\bar{s}$	-0.001657	-0.001657	0	0.006515	0.006515	0
$t\bar{t} \to t\bar{t}$	0.2703	0.2703	0	0.2171	0.2171	0

#### 2.155 ctb1

#### 2.156 ctb8

#### 2.157 ctd1

interference square mod1mod2 1 - mod2/mod1mod1 $mod2 \quad 1 - mod2/mod1$  $t\bar{t} \to d\bar{d}$  $-0.03144 \quad -0.03144$  $0.5701 \quad 0.5701$ 0 0  $t\bar{t} \to s\bar{s}$  $-0.03105 \quad -0.03105$ 0.5630.5630

#### $2.158 \quad \text{ctd8}$

interference square  $mod2 \quad 1 - mod2/mod1$ 1 - mod2/mod1mod2 mod1mod1 $t\bar{t} \to d\bar{d}$ 0.1129 0.1129 0.031460 0.031460  $t\bar{t} \to s\bar{s}$ 0.19260.19260  $0.05835 \quad 0.05835$ 0

#### 2.159 cte

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$t\bar{t} \to \tau^+ \tau^-$	-0.007633	-0.007633	0	0.0443	0.0443	0	

# 2.160 ctj1

		inter	rference		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$		
$t\bar{t} \to c\bar{c}$	0.008036	0.008036	0	0.05374	0.05374	0		
$t\bar{t} \to d\bar{d}$	0.01998	0.01998	0	0.9434	0.9434	0		
$t\bar{t} \to s\bar{s}$	-0.005649	-0.005649	0	0.0199	0.0199	0		

# 2.161 ctj8

		in	nterference		square			
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$		
$t\bar{t} \to c\bar{c}$	0.03043	0.03043	0	0.003637	0.003637	0		
$t\bar{t} \to d\bar{d}$	0.4543	0.4543	0	0.1467	0.1467	0		
$t \bar t  o s \bar s$	0.3711	0.3711	0	0.1186	0.1186	0		

# 2.162 ctl

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	-0.01397	-0.01397	0	0.1935	0.1935	0	
$t\bar{t} \to \tau^+ \tau^-$	-0.01972	-0.01972	0	0.2143	0.2143	0	

#### 2.163 ctt

#### 2.164 ctu1

	interference				square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$t\bar{t} \to c\bar{c}$	0.06985	0.06985	0	0.6342	0.6342	0	

#### 2.165 ctu8

		interference			square		
	mod1	$\mathtt{mod1}  \mathtt{mod2}  1 - \mathtt{mod2}/\mathtt{mod1}$		mod1	mod2	$1-{\tt mod2/mod1}$	
$t\bar{t} \to c\bar{c}$	0.439	0.439	0	0.1415	0.1415	0	

### 2.166 cuBIm

	interference				square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to zc\bar{c}$	$-4.104 \cdot 10^{-11}$	$-4.104 \cdot 10^{-11}$	$1.462 \cdot 10^{-7}$	$9.922 \cdot 10^{-12}$	$9.922 \cdot 10^{-12}$	$2.721 \cdot 10^{-7}$		
$HW^+ \to \gamma u \bar{d}$	$8.314 \cdot 10^{-18}$	$8.314 \cdot 10^{-18}$	$-7.217 \cdot 10^{-7}$	$3.936 \cdot 10^{-17}$	$3.936 \cdot 10^{-17}$	$-1.448 \cdot 10^{-6}$		
$H\gamma \to c\bar{c}$	$1.967 \cdot 10^{-22}$	$1.966 \cdot 10^{-22}$	0.0002712	$4.706 \cdot 10^{-5}$	$4.706 \cdot 10^{-5}$	$2.975 \cdot 10^{-7}$		
$Hz \to u\bar{u}$	$-5.858 \cdot 10^{-15}$	$-5.858 \cdot 10^{-15}$	$-7.17 \cdot 10^{-7}$	$6.667 \cdot 10^{-11}$	$6.667 \cdot 10^{-11}$	$-1.455 \cdot 10^{-6}$		
$W^+W^- \to H c \bar c$	$-3.836 \cdot 10^{-12}$	$-3.836 \cdot 10^{-12}$	$1.564 \cdot 10^{-7}$	$4.856 \cdot 10^{-13}$	$4.856 \cdot 10^{-13}$	$2.883 \cdot 10^{-7}$		
$b\bar{b} \to u\bar{u}$	$-9.755 \cdot 10^{-29}$	$-1.114 \cdot 10^{-28}$	-0.1421	$1.087 \cdot 10^{-13}$	$1.087 \cdot 10^{-13}$	$-1.38 \cdot 10^{-6}$		

$c\bar{c} \to \mu^+ \mu^-$	$-1.121 \cdot 10^{-23}$	$-1.121 \cdot 10^{-23}$	$-1.597 \cdot 10^{-5}$	$1.203 \cdot 10^{-7}$	$1.203 \cdot 10^{-7}$	$3.324 \cdot 10^{-7}$
$d\bar{d} \rightarrow c\bar{c}$	$5.024 \cdot 10^{-25}$	$1.883 \cdot 10^{-24}$	-2.748	$1.7\cdot 10^{-8}$	$1.7\cdot 10^{-8}$	$2.353 \cdot 10^{-7}$
$t\bar{t} \to c\bar{c}$	$2.693 \cdot 10^{-21}$	$2.657 \cdot 10^{-21}$	0.01332	$1.593 \cdot 10^{-7}$	$1.593 \cdot 10^{-7}$	$2.512 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$-1.182 \cdot 10^{-25}$	$-1.182 \cdot 10^{-25}$	0.0001289	$3.848 \cdot 10^{-13}$	$3.848 \cdot 10^{-13}$	$-1.455 \cdot 10^{-6}$
$u\bar{u} \to \nu_e \bar{\nu}_e$	$-4.278 \cdot 10^{-28}$	$-4.278 \cdot 10^{-28}$	$7.947 \cdot 10^{-7}$	$9.665 \cdot 10^{-14}$	$9.665 \cdot 10^{-14}$	$-1.448 \cdot 10^{-6}$
$u\bar{u} \to c\bar{c}$	$1.362 \cdot 10^{-23}$	$1.068 \cdot 10^{-23}$	0.2161	$1.865 \cdot 10^{-7}$	$1.865 \cdot 10^{-7}$	$2.681 \cdot 10^{-7}$
$u\bar{u} \to u\bar{u}$	$6.534 \cdot 10^{-27}$	$5.713 \cdot 10^{-27}$	0.1256	$1.627 \cdot 10^{-12}$	$1.627 \cdot 10^{-12}$	$-1.475 \cdot 10^{-6}$

### 2.167 cuBRe

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to zc\bar{c}$	$-3.531 \cdot 10^{-10}$	$-3.531 \cdot 10^{-10}$	$1.416 \cdot 10^{-7}$	$3.044 \cdot 10^{-10}$	$3.044 \cdot 10^{-10}$	$2.628 \cdot 10^{-7}$		
$HW^+ \to \gamma u \bar{d}$	$-7.182 \cdot 10^{-19}$	$-7.182 \cdot 10^{-19}$	$-7.241 \cdot 10^{-7}$	$8.519 \cdot 10^{-17}$	$8.519 \cdot 10^{-17}$	$-1.456 \cdot 10^{-6}$		
$H\gamma \to c\bar{c}$	$7.485 \cdot 10^{-10}$	$7.485 \cdot 10^{-10}$	$1.336 \cdot 10^{-7}$	0.0001237	0.0001237	$2.425 \cdot 10^{-7}$		
$Hz \to u\bar{u}$	$2.591 \cdot 10^{-12}$	$2.591 \cdot 10^{-12}$	$-7.333 \cdot 10^{-7}$	$7.081 \cdot 10^{-11}$	$7.081 \cdot 10^{-11}$	$-1.441 \cdot 10^{-6}$		
$W^+W^- \to Hc\bar{c}$	$-1.187 \cdot 10^{-11}$	$-1.187 \cdot 10^{-11}$	$1.684 \cdot 10^{-7}$	$3.289 \cdot 10^{-13}$	$3.289 \cdot 10^{-13}$	$3.04 \cdot 10^{-7}$		
$b\bar{b} \to u\bar{u}$	$7.513 \cdot 10^{-14}$	$7.513 \cdot 10^{-14}$	$-7.321 \cdot 10^{-7}$	$1.087 \cdot 10^{-13}$	$1.087 \cdot 10^{-13}$	$-1.472 \cdot 10^{-6}$		
$c\bar{c} \to \mu^+ \mu^-$	$-6.639 \cdot 10^{-8}$	$-6.639 \cdot 10^{-8}$	$1.356 \cdot 10^{-7}$	$2.47 \cdot 10^{-8}$	$2.47 \cdot 10^{-8}$	$2.834 \cdot 10^{-7}$		
$d\bar{d} \to c\bar{c}$	$-1.334 \cdot 10^{-8}$	$-1.334 \cdot 10^{-8}$	$1.499 \cdot 10^{-7}$	$2.407 \cdot 10^{-8}$	$2.407 \cdot 10^{-8}$	$2.908 \cdot 10^{-7}$		
$t\bar{t} \to c\bar{c}$	$-1.549 \cdot 10^{-7}$	$-1.549 \cdot 10^{-7}$	$1.291 \cdot 10^{-7}$	$1.918 \cdot 10^{-7}$	$1.918 \cdot 10^{-7}$	$3.128 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-6.493 \cdot 10^{-14}$	$-6.493 \cdot 10^{-14}$	$-7.238 \cdot 10^{-7}$	$1.348 \cdot 10^{-14}$	$1.348 \cdot 10^{-14}$	$-1.41\cdot10^{-6}$		
$u\bar{u} \to \nu_e \bar{\nu}_e$	$1.826 \cdot 10^{-13}$	$1.826 \cdot 10^{-13}$	$-7.12 \cdot 10^{-7}$	$3.512 \cdot 10^{-14}$	$3.512 \cdot 10^{-14}$	$-1.452 \cdot 10^{-6}$		
$u\bar{u} \to c\bar{c}$	$-2.161 \cdot 10^{-7}$	$-2.161 \cdot 10^{-7}$	$1.388 \cdot 10^{-7}$	$9.578 \cdot 10^{-8}$	$9.578 \cdot 10^{-8}$	$2.819 \cdot 10^{-7}$		
$u\bar{u} \to u\bar{u}$	$-1.215 \cdot 10^{-11}$	$-1.215 \cdot 10^{-11}$	$-7.406 \cdot 10^{-7}$	$3.576 \cdot 10^{-12}$	$3.576 \cdot 10^{-12}$	$-1.454 \cdot 10^{-6}$		

### 2.168 cuGIm

interference

square

	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$
$b\bar{b} \to u\bar{u}$	$-2.219 \cdot 10^{-28}$	$-4.036 \cdot 10^{-28}$	-0.8188	$4.165 \cdot 10^{-12}$	$4.165 \cdot 10^{-12}$	$-1.441 \cdot 10^{-6}$
$d\bar{d} \to c\bar{c}$	$-8.21 \cdot 10^{-24}$	$-4.465 \cdot 10^{-24}$	0.4562	$9.226 \cdot 10^{-7}$	$9.226 \cdot 10^{-7}$	$2.818 \cdot 10^{-7}$
$gg \to u\bar{u}$	$7.316 \cdot 10^{-27}$	$6.309 \cdot 10^{-27}$	0.1376	$1.579 \cdot 10^{-11}$	$1.579 \cdot 10^{-11}$	$-1.456 \cdot 10^{-6}$
$t\bar{t} \to c\bar{c}$	$-7.006 \cdot 10^{-22}$	$-6.914 \cdot 10^{-22}$	0.01306	$2.252 \cdot 10^{-6}$	$2.252 \cdot 10^{-6}$	$3.108 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$-9.888 \cdot 10^{-28}$	$-1.003 \cdot 10^{-27}$	-0.01482	$5.287 \cdot 10^{-13}$	$5.287 \cdot 10^{-13}$	$-1.456 \cdot 10^{-6}$
$u\bar{u} \to c\bar{c}$	$9.626 \cdot 10^{-23}$	$6.326 \cdot 10^{-23}$	0.3428	$1.091 \cdot 10^{-6}$	$1.091 \cdot 10^{-6}$	$2.75 \cdot 10^{-7}$
$u\bar{u} \to u\bar{u}$	$2.859 \cdot 10^{-27}$	$3.661 \cdot 10^{-27}$	-0.2809	$2.133 \cdot 10^{-11}$	$2.133 \cdot 10^{-11}$	$-1.407 \cdot 10^{-6}$

# **2.169** cuGRe

		interfere	ence		square			
	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1		
$b\bar{b} \to u\bar{u}$	$-2.992 \cdot 10^{-11}$	$-2.992 \cdot 10^{-11}$	$-7.353 \cdot 10^{-7}$	$4.165 \cdot 10^{-12}$	$4.165 \cdot 10^{-12}$	$-1.441 \cdot 10^{-6}$		
$d\bar{d} \to c\bar{c}$	$-1.034 \cdot 10^{-5}$	$-1.034 \cdot 10^{-5}$	$9.669 \cdot 10^{-8}$	$9.226 \cdot 10^{-7}$	$9.226 \cdot 10^{-7}$	$2.818 \cdot 10^{-7}$		
$gg \to u\bar{u}$	$-1.312 \cdot 10^{-10}$	$-1.312 \cdot 10^{-10}$	$-6.858 \cdot 10^{-7}$	$1.579 \cdot 10^{-11}$	$1.579 \cdot 10^{-11}$	$-1.456 \cdot 10^{-6}$		
$t\bar{t} \to c\bar{c}$	$-1.159 \cdot 10^{-5}$	$-1.159 \cdot 10^{-5}$	$8.631 \cdot 10^{-8}$	$2.252 \cdot 10^{-6}$	$2.252 \cdot 10^{-6}$	$3.108 \cdot 10^{-7}$		
$u\bar{d} \to u\bar{d}$	$-3.001 \cdot 10^{-11}$	$-3.001 \cdot 10^{-11}$	$-7.332 \cdot 10^{-7}$	$5.287 \cdot 10^{-13}$	$5.287 \cdot 10^{-13}$	$-1.456 \cdot 10^{-6}$		
$u\bar{u} \to c\bar{c}$	$-1.034 \cdot 10^{-5}$	$-1.034 \cdot 10^{-5}$	$9.669 \cdot 10^{-8}$	$1.091 \cdot 10^{-6}$	$1.091 \cdot 10^{-6}$	$2.75 \cdot 10^{-7}$		
$u\bar{u} \to u\bar{u}$	$-1.037 \cdot 10^{-10}$	$-1.037 \cdot 10^{-10}$	$-7.715 \cdot 10^{-7}$	$2.133 \cdot 10^{-11}$	$2.133 \cdot 10^{-11}$	$-1.407 \cdot 10^{-6}$		

### 2.170 cuHIm

		interfere	ence		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$		
$HH \to Hu\bar{u}$	$-5.4 \cdot 10^{-26}$	$-5.4 \cdot 10^{-26}$	$-1.111 \cdot 10^{-7}$	$5.575 \cdot 10^{-16}$	$5.575 \cdot 10^{-16}$	$-1.435 \cdot 10^{-6}$		
$HH \to W^- u \bar{d}$	$3.099 \cdot 10^{-17}$	$3.099 \cdot 10^{-17}$	$-7.099 \cdot 10^{-7}$	$1.747 \cdot 10^{-16}$	$1.747 \cdot 10^{-16}$	$-1.431 \cdot 10^{-6}$		
$HH \to zc\bar{c}$	$-1.797 \cdot 10^{-10}$	$-1.797 \cdot 10^{-10}$	$1.67 \cdot 10^{-7}$	$6.167 \cdot 10^{-11}$	$6.167 \cdot 10^{-11}$	$2.757 \cdot 10^{-7}$		
$HW^+ \to \gamma u \bar{d}$	$-2.161 \cdot 10^{-17}$	$-2.161 \cdot 10^{-17}$	$-7.404 \cdot 10^{-7}$	$3.882 \cdot 10^{-19}$	$3.882 \cdot 10^{-19}$	$-1.443 \cdot 10^{-6}$		

$HW^+ \to u\bar{d}$	$5.158 \cdot 10^{-14}$	$5.158 \cdot 10^{-14}$	$-7.174 \cdot 10^{-7}$	$9.55 \cdot 10^{-12}$	$9.55 \cdot 10^{-12}$	$-1.456 \cdot 10^{-6}$
$H\gamma \to c\bar{c}$	$3.176 \cdot 10^{-22}$	$3.706 \cdot 10^{-22}$	-0.1667	$1.001 \cdot 10^{-7}$	$1.001 \cdot 10^{-7}$	$2.996 \cdot 10^{-7}$
$Hz \to u\bar{u}$	$-3.159 \cdot 10^{-18}$	$-3.159 \cdot 10^{-18}$	$-7.281 \cdot 10^{-7}$	$9.364 \cdot 10^{-12}$	$9.364 \cdot 10^{-12}$	$-1.452 \cdot 10^{-6}$
$W^+W^-  o Hc\bar{c}$	$4.774 \cdot 10^{-12}$	$4.774 \cdot 10^{-12}$	$1.466 \cdot 10^{-7}$	$1.336 \cdot 10^{-12}$	$1.336 \cdot 10^{-12}$	$2.994 \cdot 10^{-7}$
$W^+W^- \to H d\bar{d}$	$3.57 \cdot 10^{-17}$	$3.57 \cdot 10^{-17}$	$-7.283 \cdot 10^{-7}$	$4.516 \cdot 10^{-28}$	$4.516 \cdot 10^{-28}$	$-1.461 \cdot 10^{-6}$
$b\bar{b} \to u\bar{u}$	$-1.1 \cdot 10^{-31}$	$-2.853 \cdot 10^{-31}$	-1.593	$8.413 \cdot 10^{-17}$	$8.413 \cdot 10^{-17}$	$-1.45 \cdot 10^{-6}$
$c\bar{c} \to \mu^+ \mu^-$	$1.906 \cdot 10^{-30}$	$1.028 \cdot 10^{-29}$	-4.391	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$2.744 \cdot 10^{-7}$
$d\bar{d} \to c\bar{c}$	$1.508 \cdot 10^{-31}$	$-1.285 \cdot 10^{-32}$	1.085	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$2.755 \cdot 10^{-7}$
$t\bar{t} \to c\bar{c}$	$1.385 \cdot 10^{-22}$	$7.119 \cdot 10^{-23}$	0.4859	$4.676 \cdot 10^{-8}$	$4.676 \cdot 10^{-8}$	$2.78 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$-8.627 \cdot 10^{-36}$	$-9.027 \cdot 10^{-36}$	-0.04639	$9.78 \cdot 10^{-23}$	$9.78 \cdot 10^{-23}$	$-1.442 \cdot 10^{-6}$
$u\bar{u} \to c\bar{c}$	$1.088 \cdot 10^{-32}$	$-3.748 \cdot 10^{-33}$	1.345	$1.553 \cdot 10^{-17}$	$1.553 \cdot 10^{-17}$	$-5.794 \cdot 10^{-7}$
$u\bar{u} \to u\bar{u}$	$-8.112 \cdot 10^{-28}$	$-5.293 \cdot 10^{-28}$	0.3475	$1.096 \cdot 10^{-22}$	$1.096 \cdot 10^{-22}$	$-1.46 \cdot 10^{-6}$

# 2.171 cuHRe

		interfere		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$HH \to Hu\bar{u}$	$-8.2 \cdot 10^{-17}$	$-8.2 \cdot 10^{-17}$	$-7.195 \cdot 10^{-7}$	$5.779 \cdot 10^{-17}$	$5.779 \cdot 10^{-17}$	$-1.453 \cdot 10^{-6}$
$HH \to W^- u \bar{d}$	$-7.474 \cdot 10^{-16}$	$-7.474 \cdot 10^{-16}$	$-7.225 \cdot 10^{-7}$	$8.87 \cdot 10^{-16}$	$8.87 \cdot 10^{-16}$	$-1.454 \cdot 10^{-6}$
$HH \to zc\bar{c}$	$7.119 \cdot 10^{-10}$	$7.119 \cdot 10^{-10}$	$1.264 \cdot 10^{-7}$	$2.193 \cdot 10^{-11}$	$2.193 \cdot 10^{-11}$	$2.736 \cdot 10^{-7}$
$HW^+ \to \gamma u \bar{d}$	$-8.117 \cdot 10^{-17}$	$-8.117 \cdot 10^{-17}$	$-7.269 \cdot 10^{-7}$	$4.294 \cdot 10^{-17}$	$4.294 \cdot 10^{-17}$	$-1.444 \cdot 10^{-6}$
$HW^+  o u \bar d$	$-2.986 \cdot 10^{-11}$	$-2.986 \cdot 10^{-11}$	$-7.032 \cdot 10^{-7}$	$1.041 \cdot 10^{-11}$	$1.041 \cdot 10^{-11}$	$-1.442 \cdot 10^{-6}$
$H\gamma \to c\bar{c}$	$-5.521 \cdot 10^{-6}$	$-5.521 \cdot 10^{-6}$	$1.268 \cdot 10^{-7}$	$1.674 \cdot 10^{-7}$	$1.674 \cdot 10^{-7}$	$2.987 \cdot 10^{-7}$
$Hz \to u\bar{u}$	$2.611 \cdot 10^{-13}$	$2.611 \cdot 10^{-13}$	$-7.277 \cdot 10^{-7}$	$9.405 \cdot 10^{-12}$	$9.405 \cdot 10^{-12}$	$-1.446 \cdot 10^{-6}$
$W^+W^- \to H c \bar c$	$-2.26 \cdot 10^{-11}$	$-2.26 \cdot 10^{-11}$	$1.328 \cdot 10^{-7}$	$2.352 \cdot 10^{-12}$	$2.352 \cdot 10^{-12}$	$2.976 \cdot 10^{-7}$
$W^+W^-  o H d \bar d$	$6.167 \cdot 10^{-17}$	$6.167 \cdot 10^{-17}$	$-7.297 \cdot 10^{-7}$	$1.971 \cdot 10^{-27}$	$1.971 \cdot 10^{-27}$	$-1.471 \cdot 10^{-6}$
$b\bar{b} \to u\bar{u}$	$-2.795 \cdot 10^{-15}$	$-2.795 \cdot 10^{-15}$	$-7.512 \cdot 10^{-7}$	$8.413 \cdot 10^{-17}$	$8.413 \cdot 10^{-17}$	$-1.45 \cdot 10^{-6}$
$c\bar{c} \to \mu^+\mu^-$	$-2.071 \cdot 10^{-13}$	$-2.071 \cdot 10^{-13}$	$1.449 \cdot 10^{-7}$	$6.195 \cdot 10^{-15}$	$6.195 \cdot 10^{-15}$	$2.744 \cdot 10^{-7}$
$d\bar{d} \to c\bar{c}$	$-1.189 \cdot 10^{-15}$	$-1.189 \cdot 10^{-15}$	$1.682 \cdot 10^{-7}$	$3.63 \cdot 10^{-17}$	$3.63 \cdot 10^{-17}$	$2.755 \cdot 10^{-7}$

$t\bar{t} \to c\bar{c}$	$-1.553 \cdot 10^{-6}$	$-1.553 \cdot 10^{-6}$	$1.288 \cdot 10^{-7}$	$4.676 \cdot 10^{-8}$	$4.676 \cdot 10^{-8}$	$2.78 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$-1.741 \cdot 10^{-21}$	$-1.741 \cdot 10^{-21}$	$-7.469 \cdot 10^{-7}$	$9.434 \cdot 10^{-23}$	$9.434 \cdot 10^{-23}$	$-1.452 \cdot 10^{-6}$
$u\bar{u} \to c\bar{c}$	$-5.143 \cdot 10^{-16}$	$-5.143 \cdot 10^{-16}$	$-2.916 \cdot 10^{-7}$	$3.107 \cdot 10^{-17}$	$3.107 \cdot 10^{-17}$	$-5.794 \cdot 10^{-7}$
$u\bar{u} \to u\bar{u}$	$2.675 \cdot 10^{-11}$	$2.675 \cdot 10^{-11}$	$-7.104 \cdot 10^{-7}$	$2.019 \cdot 10^{-22}$	$2.019 \cdot 10^{-22}$	$-1.437 \cdot 10^{-6}$

# 2.172 cuWIm

		interfere		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-{\tt mod2/mod1}$
$HH \to W^- u \bar{d}$	$-5.312 \cdot 10^{-17}$	$-5.312 \cdot 10^{-17}$	$-7.342 \cdot 10^{-7}$	$2.936 \cdot 10^{-16}$	$2.936 \cdot 10^{-16}$	$-1.464 \cdot 10^{-6}$
$HH \to zc\bar{c}$	$-8.008 \cdot 10^{-12}$	$-8.008 \cdot 10^{-12}$	$1.374 \cdot 10^{-7}$	$1.601 \cdot 10^{-11}$	$1.601 \cdot 10^{-11}$	$2.498 \cdot 10^{-7}$
$HW^+ \to \gamma u \bar{d}$	$3.947 \cdot 10^{-18}$	$3.947 \cdot 10^{-18}$	$-7.094 \cdot 10^{-7}$	$3.51 \cdot 10^{-17}$	$3.51 \cdot 10^{-17}$	$-1.425 \cdot 10^{-6}$
$HW^+ \to u\bar{d}$	$-6.288 \cdot 10^{-15}$	$-6.288 \cdot 10^{-15}$	$-7.157 \cdot 10^{-7}$	$3.06 \cdot 10^{-10}$	$3.06 \cdot 10^{-10}$	$-1.438 \cdot 10^{-6}$
$H\gamma \to c\bar{c}$	$5.269 \cdot 10^{-25}$	$3.395 \cdot 10^{-25}$	0.3556	$8.218 \cdot 10^{-6}$	$8.218 \cdot 10^{-6}$	$2.799 \cdot 10^{-7}$
$Hz \to u\bar{u}$	$2.803 \cdot 10^{-15}$	$2.803 \cdot 10^{-15}$	$-7.493 \cdot 10^{-7}$	$2.464 \cdot 10^{-10}$	$2.464 \cdot 10^{-10}$	$-1.42 \cdot 10^{-6}$
$W^+W^-  o Hc\bar{c}$	$-9.35 \cdot 10^{-11}$	$-9.35 \cdot 10^{-11}$	$1.39 \cdot 10^{-7}$	$4.339 \cdot 10^{-10}$	$4.339 \cdot 10^{-10}$	$2.765 \cdot 10^{-7}$
$W^+W^- \to H d\bar{d}$	$-9.313 \cdot 10^{-17}$	$-9.313 \cdot 10^{-17}$	$-7.194 \cdot 10^{-7}$	$1.44 \cdot 10^{-25}$	$1.44 \cdot 10^{-25}$	$-1.458 \cdot 10^{-6}$
$\bar{b}t \to \bar{d}u$	$-3.011 \cdot 10^{-26}$	$-3.012 \cdot 10^{-26}$	$-2.603 \cdot 10^{-5}$	$7.195 \cdot 10^{-13}$	$7.195 \cdot 10^{-13}$	$-1.459 \cdot 10^{-6}$
$b\bar{b} \to u\bar{u}$	$4.523 \cdot 10^{-29}$	$9.74 \cdot 10^{-30}$	0.7847	$1.008 \cdot 10^{-12}$	$1.008 \cdot 10^{-12}$	$-1.488 \cdot 10^{-6}$
$c\bar{c} \to \mu^+ \mu^-$	$4.541 \cdot 10^{-23}$	$4.541 \cdot 10^{-23}$	$-7.906 \cdot 10^{-6}$	$1.078 \cdot 10^{-7}$	$1.078 \cdot 10^{-7}$	$2.782 \cdot 10^{-7}$
$c\bar{s} \to \tau^+ \nu_{\tau}$	$1.833 \cdot 10^{-22}$	$1.841 \cdot 10^{-22}$	-0.004114	$2.289 \cdot 10^{-7}$	$2.289 \cdot 10^{-7}$	$2.621 \cdot 10^{-7}$
$d\bar{d} \to c\bar{c}$	$-5.578 \cdot 10^{-25}$	$-1.118 \cdot 10^{-23}$	-19.04	$2.857 \cdot 10^{-7}$	$2.857 \cdot 10^{-7}$	$2.801 \cdot 10^{-7}$
$t\bar{t} \to c\bar{c}$	$-3.382 \cdot 10^{-22}$	$-3.515 \cdot 10^{-22}$	-0.03929	$3.13 \cdot 10^{-7}$	$3.13 \cdot 10^{-7}$	$2.556 \cdot 10^{-7}$
$u\bar{d} \to \mu^+ \nu_{\mu}$	$-2.087 \cdot 10^{-29}$	$-1.971 \cdot 10^{-29}$	0.05576	$9.217 \cdot 10^{-14}$	$9.217 \cdot 10^{-14}$	$-1.454 \cdot 10^{-6}$
$u\bar{d} \to c\bar{s}$	$-1.176 \cdot 10^{-23}$	$-5.881 \cdot 10^{-24}$	0.5	$6.736 \cdot 10^{-7}$	$6.736 \cdot 10^{-7}$	$2.672 \cdot 10^{-7}$
$u\bar{d} \to u\bar{d}$	$3.216 \cdot 10^{-25}$	$3.218 \cdot 10^{-25}$	-0.0004562	$5.752 \cdot 10^{-12}$	$5.752 \cdot 10^{-12}$	$-1.443 \cdot 10^{-6}$
$u\bar{u} \to \nu_e \bar{\nu}_e$	$2.072 \cdot 10^{-29}$	$2.072 \cdot 10^{-29}$	$-1.655 \cdot 10^{-5}$	$3.154 \cdot 10^{-13}$	$3.154 \cdot 10^{-13}$	$-1.459 \cdot 10^{-6}$
$u\bar{u} \to c\bar{c}$	$-5.282 \cdot 10^{-24}$	$1.199 \cdot 10^{-23}$	3.271	$2.678 \cdot 10^{-7}$	$2.678 \cdot 10^{-7}$	$2.988 \cdot 10^{-7}$
$u\bar{u} \to u\bar{u}$	$7.546 \cdot 10^{-27}$	$7.707 \cdot 10^{-27}$	-0.02139	$5.968 \cdot 10^{-12}$	$5.968 \cdot 10^{-12}$	$-1.458 \cdot 10^{-6}$

### 2.173 cuWRe

		interfere		square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	
$HH \to W^- u \bar{d}$	$-1.544 \cdot 10^{-15}$	$-1.544 \cdot 10^{-15}$	$-7.123 \cdot 10^{-7}$	$2.337 \cdot 10^{-15}$	$2.337 \cdot 10^{-15}$	$-1.412 \cdot 10^{-6}$	
$HH \to zc\bar{c}$	$6.595 \cdot 10^{-10}$	$6.595 \cdot 10^{-10}$	$1.365 \cdot 10^{-7}$	$1.062 \cdot 10^{-9}$	$1.062 \cdot 10^{-9}$	$2.826 \cdot 10^{-7}$	
$HW^+ \to \gamma u \bar{d}$	$-1.548 \cdot 10^{-18}$	$-1.548 \cdot 10^{-18}$	$-7.754 \cdot 10^{-7}$	$1.674 \cdot 10^{-16}$	$1.674 \cdot 10^{-16}$	$-1.493 \cdot 10^{-6}$	
$HW^+ \to u\bar{d}$	$-7.03 \cdot 10^{-12}$	$-7.03 \cdot 10^{-12}$	$-7.254 \cdot 10^{-7}$	$9.559 \cdot 10^{-11}$	$9.559 \cdot 10^{-11}$	$-1.444 \cdot 10^{-6}$	
$H\gamma \to c\bar{c}$	$4.008 \cdot 10^{-10}$	$4.008 \cdot 10^{-10}$	$1.497 \cdot 10^{-7}$	$3.547 \cdot 10^{-5}$	$3.547 \cdot 10^{-5}$	$2.819 \cdot 10^{-7}$	
$Hz \to u\bar{u}$	$-4.838 \cdot 10^{-12}$	$-4.838 \cdot 10^{-12}$	$-7.234 \cdot 10^{-7}$	$2.469 \cdot 10^{-10}$	$2.469 \cdot 10^{-10}$	$-1.458 \cdot 10^{-6}$	
$W^+W^-  o Hc\bar{c}$	$-2.637 \cdot 10^{-10}$	$-2.637 \cdot 10^{-10}$	$1.138 \cdot 10^{-7}$	$8.412 \cdot 10^{-11}$	$8.412 \cdot 10^{-11}$	$2.734 \cdot 10^{-7}$	
$W^+W^- \to H d\bar{d}$	$-6.802 \cdot 10^{-17}$	$-6.802 \cdot 10^{-17}$	$-7.204 \cdot 10^{-7}$	$2.74 \cdot 10^{-24}$	$2.74 \cdot 10^{-24}$	$-1.46 \cdot 10^{-6}$	
$\bar{b}t \to \bar{d}u$	$-3.569 \cdot 10^{-12}$	$-3.569 \cdot 10^{-12}$	$-7.286 \cdot 10^{-7}$	$1.496 \cdot 10^{-12}$	$1.496 \cdot 10^{-12}$	$-1.404 \cdot 10^{-6}$	
$b\bar{b} \to u\bar{u}$	$-9.611 \cdot 10^{-13}$	$-9.611 \cdot 10^{-13}$	$-7.283 \cdot 10^{-7}$	$6.839 \cdot 10^{-13}$	$6.839 \cdot 10^{-13}$	$-1.448 \cdot 10^{-6}$	
$c\bar{c} \to \mu^+ \mu^-$	$-6.134 \cdot 10^{-8}$	$-6.134 \cdot 10^{-8}$	$1.467 \cdot 10^{-7}$	$1.737 \cdot 10^{-8}$	$1.737 \cdot 10^{-8}$	$2.879 \cdot 10^{-7}$	
$c\bar{s} \to \tau^+ \nu_{\tau}$	$-1.291 \cdot 10^{-7}$	$-1.291 \cdot 10^{-7}$	$1.549 \cdot 10^{-7}$	$2.271 \cdot 10^{-7}$	$2.271 \cdot 10^{-7}$	$3.082 \cdot 10^{-7}$	
$d\bar{d} \to c\bar{c}$	$-3.005 \cdot 10^{-9}$	$-3.005 \cdot 10^{-9}$	$1.331 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	$1.515 \cdot 10^{-7}$	$2.64 \cdot 10^{-7}$	
$t\bar{t} \to c\bar{c}$	$-2.628 \cdot 10^{-7}$	$-2.628 \cdot 10^{-7}$	$1.141 \cdot 10^{-7}$	$3.48 \cdot 10^{-7}$	$3.48 \cdot 10^{-7}$	$2.873 \cdot 10^{-7}$	
$u\bar{d} \to \mu^+ \nu_\mu$	$-5.327 \cdot 10^{-13}$	$-5.327 \cdot 10^{-13}$	$-7.133 \cdot 10^{-7}$	$6.408 \cdot 10^{-13}$	$6.408 \cdot 10^{-13}$	$-1.451 \cdot 10^{-6}$	
$u\bar{d} \rightarrow c\bar{s}$	$-1.779 \cdot 10^{-7}$	$-1.779 \cdot 10^{-7}$	$1.686 \cdot 10^{-7}$	$4.384 \cdot 10^{-7}$	$4.384 \cdot 10^{-7}$	$2.737 \cdot 10^{-7}$	
$u\bar{d} \to u\bar{d}$	$-7.528 \cdot 10^{-12}$	$-7.528 \cdot 10^{-12}$	$-7.306 \cdot 10^{-7}$	$3.051 \cdot 10^{-13}$	$3.051 \cdot 10^{-13}$	$-1.442 \cdot 10^{-6}$	
$u\bar{u} \to \nu_e \bar{\nu}_e$	$-3.41 \cdot 10^{-13}$	$-3.41 \cdot 10^{-13}$	$-7.039 \cdot 10^{-7}$	$1.225 \cdot 10^{-13}$	$1.225 \cdot 10^{-13}$	$-1.47\cdot10^{-6}$	
$u\bar{u} \to c\bar{c}$	$-4.057 \cdot 10^{-7}$	$-4.057 \cdot 10^{-7}$	$1.479 \cdot 10^{-7}$	$1.787 \cdot 10^{-7}$	$1.787 \cdot 10^{-7}$	$2.799 \cdot 10^{-7}$	
$u\bar{u} \to u\bar{u}$	$-1.333 \cdot 10^{-11}$	$-1.333 \cdot 10^{-11}$	$-7.503 \cdot 10^{-7}$	$6.568 \cdot 10^{-12}$	$6.568 \cdot 10^{-12}$	$-1.462 \cdot 10^{-6}$	

### $2.174 \quad \mathrm{cud1}$

interference			square			
mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1 - \mathtt{mod}2$	/mod1

$d\bar{d} \to c\bar{c}$	$-2.494 \cdot 10^{-5}$	$-2.494 \cdot 10^{-5}$	0	0.0004576	0.0004576	0
$u\bar{d} \to u\bar{d}$	0.007612	0.007612	0	0.09676	0.09676	0

#### 2.175 cud8

		$in^{r}$	terference		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$d\bar{d} \to c\bar{c}$	0.6212	0.6212	0	0.2096	0.2096	0	
$u\bar{d} \to u\bar{d}$	-0.5715	-0.5715	0	0.07835	0.07835	0	

#### 2.176 cutbd1Im

		interfe	erence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1 - \mathtt{mod}2/\mathtt{mod}1$	
$\bar{b}t \to \bar{d}u$	$8.818 \cdot 10^{-27}$	$8.818 \cdot 10^{-27}$	$-1.338 \cdot 10^{-6}$	$1.118 \cdot 10^{-21}$	$1.118 \cdot 10^{-21}$	$-2.684 \cdot 10^{-6}$	

#### 2.177 cutbd1Re

#### 2.178 cutbd8Im

### 2.179 cutbd8Re

		interfei	rence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	1 - mod2/mod1	
$\bar{b}t \to \bar{d}u$	$-6.97 \cdot 10^{-23}$	$-6.97 \cdot 10^{-23}$	$-1.334 \cdot 10^{-6}$	$2.247 \cdot 10^{-20}$	$2.247 \cdot 10^{-20}$	$-2.625 \cdot 10^{-6}$	

### 2.180 cuu1

	interference				square		
	mod1	mod2	$1-{\tt mod2/mod1}$	mod1	mod2	$1-{\tt mod2/mod1}$	
$u\bar{u} \to c\bar{c}$	0.05294	0.05294	0	0.9723	0.9723	0	
$u\bar{u} \to u\bar{u}$	-0.009392	-0.009392	0	0.2103	0.2103	0	

#### 2.181 cuu8

		erterence		square		
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$
$u\bar{u} \to c\bar{c}$	0.9487	0.9487	0	0.6403	0.6403	0
$u\bar{u} \to u\bar{u}$	-0.03641	-0.03641	$-1.099 \cdot 10^{-7}$	0.1048	0.1048	$-1.909 \cdot 10^{-7}$

### 2.182 sm

	interference			square			
	mod1	mod2	$1-\mathtt{mod}2/\mathtt{mod}1$	$\verb mod1  & \verb mod2  & 1-\verb mod2/mod1 $			
$HH \to HH$	0	0	0	0.2209   0.2209   0			
$HH \to HHH$	0	0	0	$9.867 \cdot 10^{-9}$ $9.867 \cdot 10^{-9}$ 0			
$HH \to H \tau^+ \tau^-$	0	0	0	$1.715 \cdot 10^{-11}  1.715 \cdot 10^{-11} \qquad \qquad 0$			
$HH  o Hbar{b}$	0	0	0	$6.594 \cdot 10^{-10}  6.594 \cdot 10^{-10} \qquad 0$			

$HH \to H s \bar{s}$	0	0	0	$2.588 \cdot 10^{-13}$	$2.588 \cdot 10^{-13}$	0
$HH \to H t \bar{t}$	0	0	0	$4.489 \cdot 10^{-5}$	$4.489 \cdot 10^{-5}$	0
$HH \to Hu\bar{u}$	0	0	0	$2.909 \cdot 10^{-17}$	$2.909 \cdot 10^{-17}$	0
$HH \rightarrow Hzz$	0	0	0	0.0001074	0.0001074	0
$HH \to W^+W^-$	0	0	0	37.53	37.53	0
$HH  o W^+W^-\gamma$	0	0	0	$1.987 \cdot 10^{-6}$	$1.987 \cdot 10^{-6}$	0
$HH \to W^+ \bar{t} b$	0	0	0	$5.794 \cdot 10^{-5}$	$5.794 \cdot 10^{-5}$	0
$HH \to W^+ e^- \bar{\nu}_e$	0	0	0	$7.203 \cdot 10^{-7}$	$7.203 \cdot 10^{-7}$	0
$HH \to W^- u \bar{d}$	0	0	0	$9.081 \cdot 10^{-7}$	$9.081 \cdot 10^{-7}$	0
$HH \to z\bar{b}b$	0	0	0	$2.896 \cdot 10^{-7}$	$2.896 \cdot 10^{-7}$	0
$HH \to z \nu_e \bar{\nu}_e$	0	0	0	$1.548 \cdot 10^{-7}$	$1.548 \cdot 10^{-7}$	0
$HH \to zc\bar{c}$	0	0	0	$1.582 \cdot 10^{-5}$	$1.582 \cdot 10^{-5}$	0
$HH \to z d\bar{d}$	0	0	0	$1.696 \cdot 10^{-7}$	$1.696 \cdot 10^{-7}$	0
$HH \rightarrow ze^+e^-$	0	0	0	$1.109 \cdot 10^{-7}$	$1.109 \cdot 10^{-7}$	0
$HH \to zt\bar{t}$	0	0	0	0.0002417	0.0002417	0
$HH \rightarrow zz$	0	0	0	1.649	1.649	0
$HW^+  o \gamma t \bar{b}$	0	0	0	$1.217 \cdot 10^{-5}$	$1.217\cdot10^{-5}$	0
$HW^+ \to \gamma u \bar{d}$	0	0	0	$4.258 \cdot 10^{-8}$	$4.258 \cdot 10^{-8}$	0
$HW^+  o u \bar d$	0	0	0	0.00933	0.00933	0
$HW^- \to \bar{t}b$	0	0	0	0.742	0.742	0
$HW^-  o \gamma e^- \bar{\nu}_e$	0	0	0	$4.101 \cdot 10^{-8}$	$4.101\cdot10^{-8}$	0
$HW^- \to \mu^- \bar{\nu}_{\mu}$	0	0	0	0.006324	0.006324	0
$H\gamma  o bar{b}$	0	0	0	$7.336 \cdot 10^{-5}$	$7.336 \cdot 10^{-5}$	0
$H\gamma \to c\bar{c}$	0	0	0	$4.554 \cdot 10^{-5}$	$4.554 \cdot 10^{-5}$	0
$H\gamma \to d\bar{d}$	0	0	0	$6.96 \cdot 10^{-10}$	$6.96 \cdot 10^{-10}$	0
$H\gamma \to e^+e^-$	0	0	0	$4.869 \cdot 10^{-12}$	$4.869 \cdot 10^{-12}$	0
$H\gamma \to t\bar{t}$	0	0	0	0.3946	0.3946	0
$Hz \to \mu^+\mu^-$	0	0	0	0.001214	0.001214	0
$Hz \to \nu_{\tau} \bar{\nu}_{\tau}$	0	0	0	0.005362	0.005362	0

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$Hz \to bb$	0	0	0	0.004258	0.004258	0
$Hz \to s\bar{s}$	0	0	0	0.008918	0.008918	0
$Hz \to t\bar{t}$	0	0	0	1.795	1.795	0
$Hz \to u\bar{u}$	0	0	0	0.009243	0.009243	0
$W^+W^- \to Hb\bar{b}$	0	0	0	$2.242 \cdot 10^{-6}$	$2.242 \cdot 10^{-6}$	0
$W^+W^-  o Hc\bar{c}$	0	0	0	$8.685 \cdot 10^{-7}$	$8.685 \cdot 10^{-7}$	0
$W^+W^-  o Hd\bar{d}$	0	0	0	$5.861 \cdot 10^{-7}$	$5.861 \cdot 10^{-7}$	0
$W^+W^-  o H t ar t$	0	0	0	$1.066 \cdot 10^{-5}$	$1.066 \cdot 10^{-5}$	0
$W^+W^- \rightarrow W^+W^-$	0	0	0	170.7	170.7	0
$W^+W^-  o \gamma\gamma$	0	0	0	0.09957	0.09957	0
$W^+W^- \to \gamma\gamma\gamma$	0	0	0	$1.442 \cdot 10^{-6}$	$1.442 \cdot 10^{-6}$	0
$\bar{b}t \to \bar{d}u$	0	0	0	$2.624 \cdot 10^{-5}$	$2.624 \cdot 10^{-5}$	0
$\gamma W^+ \to z W^+$	0	0	0	0.3298	0.3298	0
$\mu^+\mu^- \to \tau^+\tau^-$	0	0	0	0.006547	0.006547	0
$\nu_{ au}\bar{\nu}_{ au}  ightarrow  u_{ au}\bar{\nu}_{ au}$	0	0	0	0.002952	0.002952	0
$\nu_e \bar{\nu}_e  o \nu_\mu \bar{\nu}_\mu$	0	0	0	0.002306	0.002306	0
$b\bar{b}  o \gamma \gamma$	0	0	0	0.0001149	0.0001149	0
$b\bar{b} \to \mu^+\mu^-$	0	0	0	0.003045	0.003045	0
$b\bar{b}  ightarrow  u_e \bar{ u}_e$	0	0	0	0.002865	0.002865	0
$b\bar{b}  o b\bar{b}$	0	0	0	18.75	18.75	0
$b\bar{b}  o d\bar{d}$	0	0	0	0.7498	0.7498	0
$b\bar{b}  o t\bar{t}$	0	0	0	0.3622	0.3622	0
$b\bar{b} \to u\bar{u}$	0	0	0	0.9508	0.9508	0
$b\bar{t} \to e^- \bar{\nu}_e$	0	0	0	0.0006018	0.0006018	0
$c\bar{c} \to \mu^+ \mu^-$	0	0	0	0.0006223	0.0006223	0
$c\bar{s} \to \tau^+ \nu_{\tau}$	0	0	0	$7.994 \cdot 10^{-7}$	$7.994 \cdot 10^{-7}$	0
$d\bar{d} \to c\bar{c}$	0	0	0	0.932	0.932	0
$d\bar{d} \rightarrow e^+e^-$	0	0	0	0.001694	0.001694	0
$d\bar{d} \to s\bar{s}$	0	0	0	0.5137	0.5137	0

$e^+\nu_\mu \to e^+\nu_\mu$	0	0	0	0.004483	0.004483	0
$e^+\nu_e^-  o \mu^+\nu_\mu^-$	0	0	0	0.02625	0.02625	0
$e^+\nu_e \to e^+\nu_e$	0	0	0	0.7903	0.7903	0
$e^+\tau^- \to e^+\tau^-$	0	0	0	33.14	33.14	0
$e^+e^- \rightarrow \mu^+\mu^-$	0	0	0	0.0213	0.0213	0
$e^+e^- \rightarrow e^+e^-$	0	0	0	0.01518	0.01518	0
$gg \rightarrow gg$	0	0	0	157.6	157.6	0
gg  o ggg	0	0	0	0.01527	0.01527	0
$gg  o t\bar{t}$	0	0	0	1.112	1.112	0
$gg \to u\bar{u}$	0	0	0	3.827	3.827	0
$s\bar{s}  o  u_{ au} \bar{ u}_{ au}$	0	0	0	0.0001533	0.0001533	0
$s\bar{s} \to s\bar{s}$	0	0	0	4.607	4.607	0
$t\bar{t}  o  u_{\mu} \bar{ u}_{\mu}$	0	0	0	0.002426	0.002426	0
$t\bar{t} \rightarrow \tau^+ \tau^-$	0	0	0	0.00135	0.00135	0
$t\bar{t} \to c\bar{c}$	0	0	0	0.74	0.74	0
$t\bar{t}  o d\bar{d}$	0	0	0	0.5807	0.5807	0
$t\bar{t}  o s\bar{s}$	0	0	0	0.5789	0.5789	0
$t \bar t  o t \bar t$	0	0	0	14.32	14.32	0
$u\bar{d} \to \mu^+ \nu_\mu$	0	0	0	0.0144	0.0144	0
$u\bar{d} \rightarrow c\bar{s}$	0	0	0	0.04239	0.04239	0
$u\bar{d} \to u\bar{d}$	0	0	0	7.804	7.804	0
$u\bar{u} \to \nu_e \bar{\nu}_e$	0	0	0	0.001467	0.001467	0
$u\bar{u} \to c\bar{c}$	0	0	0	0.5471	0.5471	0
$u\bar{u} \to u\bar{u}$	0	0	0	2.932	2.932	0
$zz  o W^+W^-$	0	0	0	32.39	32.39	0
$zz \to zz$	0	0	0	0.08081	0.08081	0