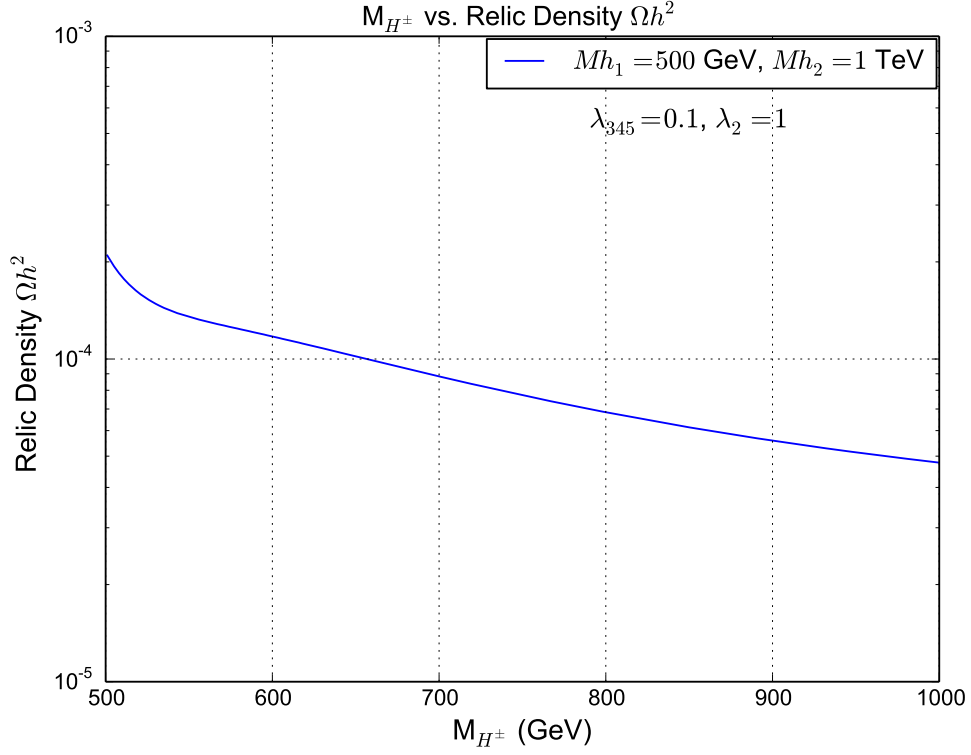


1 Case 1: $M_{H_2} = 1 \text{ TeV}$; $M_{H_1} = 500 \text{ GeV}$; $\lambda_{345} = 0.1$; $\lambda_2 = 1$



Channels which contribute to $1/(\text{omega})$ more than 1%.

- $M_{H^\pm} = 500 \text{ GeV}$: $\Omega h^2 = 2.09\text{E-}04$

33%	$h_1 h^+$	\rightarrow	$Z W^+$
27%	$h^+ h^+$	\rightarrow	$W^+ W^+$
25%	$h_1 h_1$	\rightarrow	$Z Z$
14%	$h^+ h^-$	\rightarrow	$W^+ W^-$

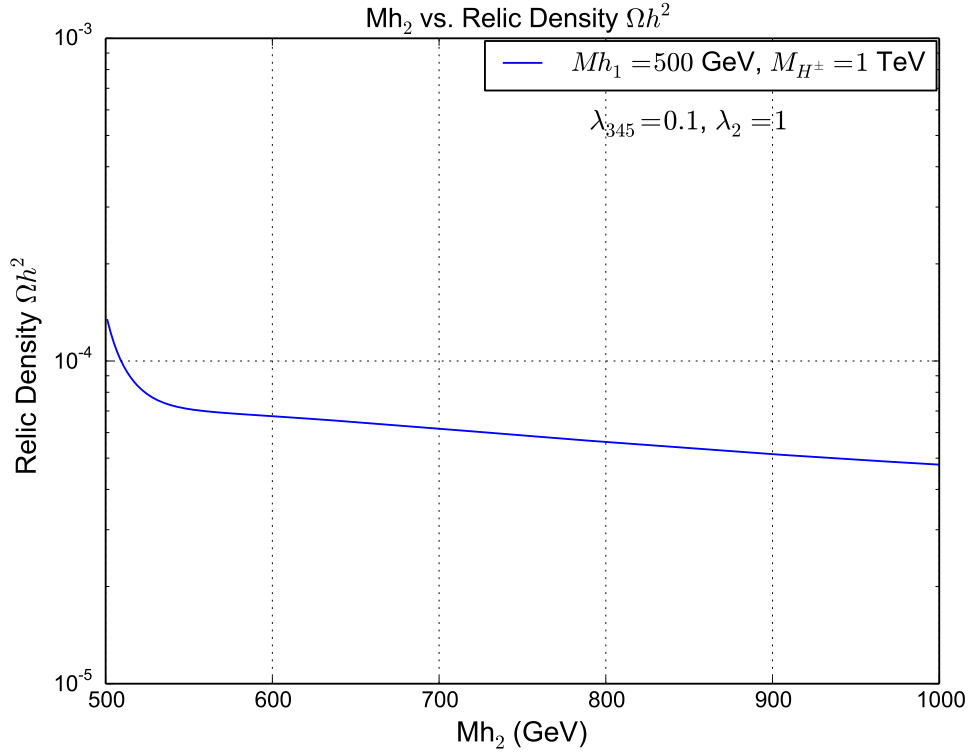
- $M_{H^\pm} = 1000 \text{ GeV}$: $\Omega h^2 = 4.77\text{E-}05$

67%	$h_1 h_1$	\rightarrow	$W^+ W^-$
33%	$h_1 h_1$	\rightarrow	$Z Z$

- $M_{H^\pm} = 800 \text{ GeV}$: $\Omega h^2 = 6.84\text{E-}05$

52%	$h_1 h_1$	\rightarrow	$W^+ W^-$
48%	$h_1 h_1$	\rightarrow	$Z Z$

2 Case 2: $M_{H^\pm}^\pm = 1 \text{ TeV}$; $M_{h_1} = 500 \text{ GeV}$; $\lambda_{345} = 0.1$; $\lambda_2 = 1$



Channels which contribute to $1/(\Omega h^2)$ more than 1%.

- $M_{h_2} = 500 \text{ GeV}$: $\Omega h^2 = 1.34\text{E-}04$

62%	$h_1 h_1 \rightarrow W^+ W^-$
38%	$h_2 h_2 \rightarrow W^+ W^-$

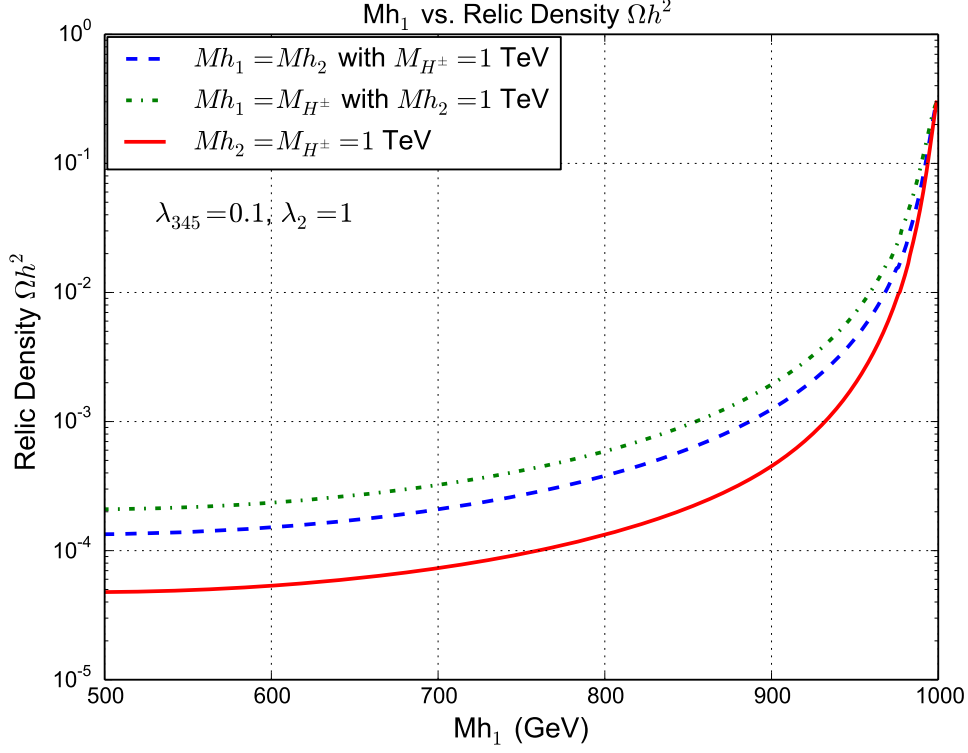
- $M_{h_2} = 1000 \text{ GeV}$: $\Omega h^2 = 4.77\text{E-}05$

67%	$h_1 h_1 \rightarrow W^+ W^-$
33%	$h_1 h_1 \rightarrow Z Z$

- $M_{h_2} = 800 \text{ GeV}$: $\Omega h^2 = 5.61\text{E-}05$

79%	$h_1 h_1 \rightarrow W^+ W^-$
21%	$h_1 h_1 \rightarrow Z Z$

3 Case 3: $\lambda_{345} = 0.1$; $\lambda_2 = 1$



3.1 $M_{h_1}=M_{h_2}$ with $M_H^\pm=1$ TeV

Channels which contribute to $1/(\Omega h^2)$ more than 1%.

- $M_{h_1} = 500$ GeV: $\Omega h^2 = 1.34\text{E-}04$

62%	$h_1 h_1 \rightarrow W^+ W^-$
38%	$h_2 h_2 \rightarrow W^+ W^-$

- $M_{h_1} = 800$ GeV: $\Omega h^2 = 3.80\text{E-}04$

59%	$h_1 h_1 \rightarrow W^+ W^-$
41%	$h_2 h_2 \rightarrow W^+ W^-$

- $M_{h_1} = 1000$ GeV: $\Omega h^2 = 2.97\text{E-}01$

17%	$h^+ h^- \rightarrow W^+ W^-$
14%	$h_1 h_1 \rightarrow W^+ W^-$
11%	$h_1 h_1 \rightarrow Z Z$
9%	$h_2 h_2 \rightarrow W^+ W^-$
7%	$h_1 h^+ \rightarrow A W^+$
6%	$h_2 h^+ \rightarrow A W^+$
6%	$h_2 h_2 \rightarrow Z Z$
6%	$h^+ h^- \rightarrow A A$
5%	$h^+ h^- \rightarrow A Z$
3%	$h^+ h^- \rightarrow Z Z$
2%	$h_2 h^+ \rightarrow Z W^+$
2%	$h^+ h^- \rightarrow H H$
2%	$h_1 h^+ \rightarrow Z W^+$
1%	$h_2 h_2 \rightarrow H H$

3.2 $Mh_1=M_H^\pm$ with $Mh_2=1$ TeV

Channels which contribute to $1/(\Omega h^2)$ more than 1%.

- $Mh_1 = 500$ GeV: $\Omega h^2 = 2.09\text{E-}04$

33%	$h_1 h^+$	\rightarrow	$Z W^+$
27%	$h^+ h^+$	\rightarrow	$W^+ W^+$
25%	$h_1 h_1$	\rightarrow	$Z Z$
14%	$h^+ h^-$	\rightarrow	$W^+ W^-$

- $Mh_1 = 1000$ GeV: $\Omega h^2 = 2.97\text{E-}01$

17%	$h^+ h^-$	\rightarrow	$W^+ W^-$
14%	$h_1 h_1$	\rightarrow	$W^+ W^-$
11%	$h_1 h_1$	\rightarrow	$Z Z$
9%	$h_2 h_2$	\rightarrow	$W^+ W^-$
7%	$h_1 h^+$	\rightarrow	$A W^+$
6%	$h_2 h^+$	\rightarrow	$A W^+$
6%	$h_2 h_2$	\rightarrow	$Z Z$
6%	$h^+ h^-$	\rightarrow	$A A$
5%	$h^+ h^-$	\rightarrow	$A Z$
3%	$h^+ h^-$	\rightarrow	$Z Z$
2%	$h_2 h^+$	\rightarrow	$Z W^+$
2%	$h^+ h^-$	\rightarrow	$H H$
2%	$h_1 h^+$	\rightarrow	$Z W^+$
1%	$h_2 h_2$	\rightarrow	$H H$

- $Mh_1 = 800$ GeV: $\Omega h^2 = 5.83\text{E-}04$

33%	$h_1 h^+$	\rightarrow	$Z W^+$
29%	$h^+ h^+$	\rightarrow	$W^+ W^+$
23%	$h_1 h_1$	\rightarrow	$Z Z$
15%	$h^+ h^-$	\rightarrow	$W^+ W^-$

3.3 $Mh_2=M_H^\pm=1$ TeV

Channels which contribute to $1/(\Omega h^2)$ more than 1%.

- $Mh_1 = 500$ GeV: $\Omega h^2 = 4.77\text{E-}05$

67%	$h_1 h_1$	\rightarrow	$W^+ W^-$
33%	$h_1 h_1$	\rightarrow	$Z Z$

- $Mh_1 = 1000$ GeV: $\Omega h^2 = 2.97\text{E-}01$

17%	$h^+ h^-$	\rightarrow	$W^+ W^-$
14%	$h_1 h_1$	\rightarrow	$W^+ W^-$
11%	$h_1 h_1$	\rightarrow	$Z Z$
9%	$h_2 h_2$	\rightarrow	$W^+ W^-$
7%	$h_1 h^+$	\rightarrow	$A W^+$
6%	$h_2 h^+$	\rightarrow	$A W^+$
6%	$h_2 h_2$	\rightarrow	$Z Z$
6%	$h^+ h^-$	\rightarrow	$A A$
5%	$h^+ h^-$	\rightarrow	$A Z$
3%	$h^+ h^-$	\rightarrow	$Z Z$
2%	$h_2 h^+$	\rightarrow	$Z W^+$
2%	$h^+ h^-$	\rightarrow	$H H$
2%	$h_1 h^+$	\rightarrow	$Z W^+$
1%	$h_2 h_2$	\rightarrow	$H H$

- $Mh_1 = 800$ GeV: $\Omega h^2 = 1.33\text{E-}04$

67%	$h_1 h_1$	\rightarrow	$W^+ W^-$
33%	$h_1 h_1$	\rightarrow	$Z Z$