

What are we missing?

$(tb)^*$	$\tau^+\tau^-$	invisible $t\bar{t}^*$
$\tau^+\nu$	$\mu^+\mu^-$	
$c\bar{s}$	$b\bar{b} + (b\bar{b})$	
$H^+$	$H^0/A^0$	

$a_1, m_{a_1} < 20 \text{ GeV}$

$\mu^+\mu^-$	$h \rightarrow a_1 a_1$	$H \rightarrow \tilde{t}\tilde{t}$
$\gamma\gamma$	$(\tau\tau\ell\ell)^*$	$H^+ \rightarrow \chi^+ \chi^0$
$(\tau\tau)^*$	$(b\bar{b}b\bar{b})^*$	
$(b\bar{b})^*$		

$\hookrightarrow$  Dilaton as well

SUSY

"2HDM"

- $(hA)^+ \rightarrow b, \tau, W$
- $(hH^+)^+ \rightarrow b, \tau, MET, W$
- $(AA)^+ \rightarrow b, \tau, W$
- $(Z, W) H, h^* \rightarrow \ell + MET + b, W, \tau$
- $(H^+ \rightarrow W^+ h)^+ \rightarrow \ell, MET$

Dilaton

- $(\chi \rightarrow hh)^*$
- $(h \rightarrow \gamma + MET)^*$  (Dudas)
- $(h \rightarrow 2\gamma + MET)^*$   $\hookrightarrow$  soft