

What are we missing?

$(tb)^*$   $\tau^+\tau^-$   
 $\tau^+\nu$   $\mu^+\mu^-$   
 $c\bar{s}$   $b\bar{b} + (b\bar{b})$

invisible  
 $t\bar{t} (*)$

$H^+$   $H^0/A^0$

$a_i$   $m_{a_i} < 20 \text{ GeV}$

SUSY

$\mu^+\mu^-$   $h \rightarrow a_i a_i$   
 $\tau\tau$   $(\tau\tau\ell\ell)^*$   
 $(\tau\tau)^*$   $(bb\bar{b}\bar{b})^*$   
 $(bb)^*$

$H \rightarrow \tilde{t}\tilde{t}$   
 $H^+ \rightarrow \chi^+ \chi^0$

$\hookrightarrow$  Dilaton as well

"2HDM"

$hA \rightarrow b, \tau, W$   
 $hH^\pm \rightarrow b, \tau, MET, W$   
 $AA \rightarrow b, \tau, W$

$(Z, W) H, h \rightarrow l + MET + b, W, \tau, \dots$

$H^+ \rightarrow W^+ h \rightarrow l, MET$

Dilaton

$\chi \rightarrow hh$