$A^0, H^0 \rightarrow \tau\tau$

$\tau_1 \rightarrow e\,\nu_e\nu_\tau$ *or* $\mu\,\nu_\mu\nu_\tau$ $\qquad$ $\tau_2 \rightarrow$ jet ν_τ

BACKGROUND

- **Z** $\rightarrow \tau\tau$ $\qquad$ *for* $m_{\tau\tau} \approx$ **100 GeV**
- **Z +** jet faking τ
  $\hookrightarrow$ ee *or* $\mu\mu$
- **b $\bar{b}$** $\qquad$ *for* $m_{\tau\tau} <$ **150 GeV**
- **W +** jet faking τ $\qquad$ *for* $m_{\tau\tau} >$ **150 GeV**
  $\hookrightarrow$ e/μ $\nu_{e/\mu}$
- **t $\bar{t}$** $\rightarrow \tau\,\tau\,X$
- **t $\bar{t}$** $\rightarrow \tau$ e/μ X
- **t $\bar{t}$** $\rightarrow$ **W b** $\qquad$ **W b**
  $\hookrightarrow$ e/μ $\nu_{e/\mu}$ $\hookrightarrow \tau\nu_\tau$ *or* jet faking τ