$H^0 \rightarrow ZZ^* \rightarrow 4l$

BACKGROUND

- $t\bar{t}$
- $Zb\bar{b}$

SELECTION CRITERIA

- $\mu^+\mu^-$ or e^+e^- pair: $p_t > 20$ GeV
  $m_{ll} = m_Z \pm 4$, 6 GeV
- 2nd pair $\mu^+\mu^-$: $p_t >$ 10, 5 GeV
  or e^+e^-: $p_t > 10$ GeV
  $m_{ll} > 12$ GeV
- **isolation:** no charged track with $p_t >$ 2.0, 2.5 GeV around (ΔR=0.15, 0.30) each lepton,
  E ($0.1<\Delta R<0.2$) < 12 GeV
- impact parameter cut

ATLAS, CMS, both