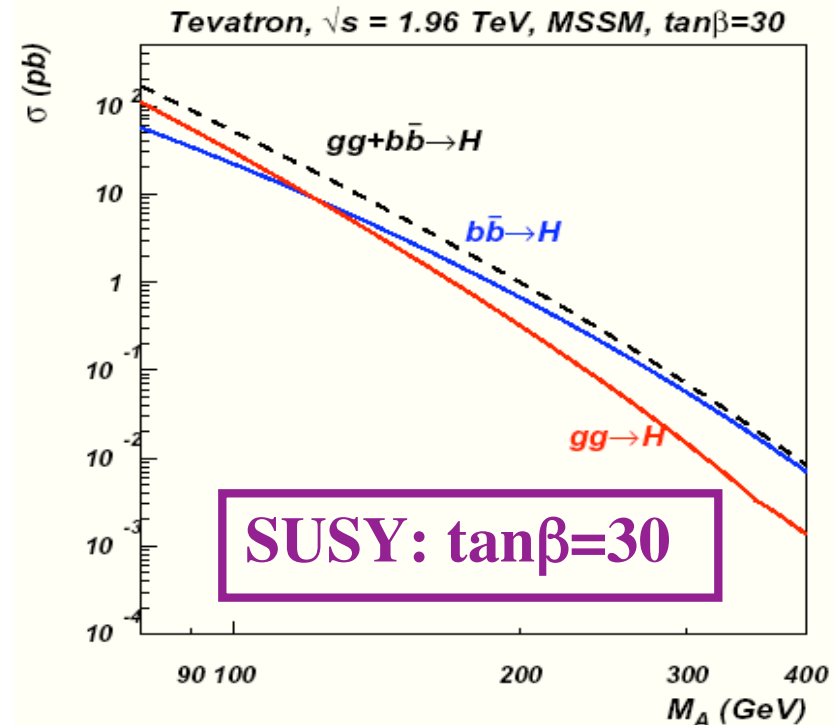
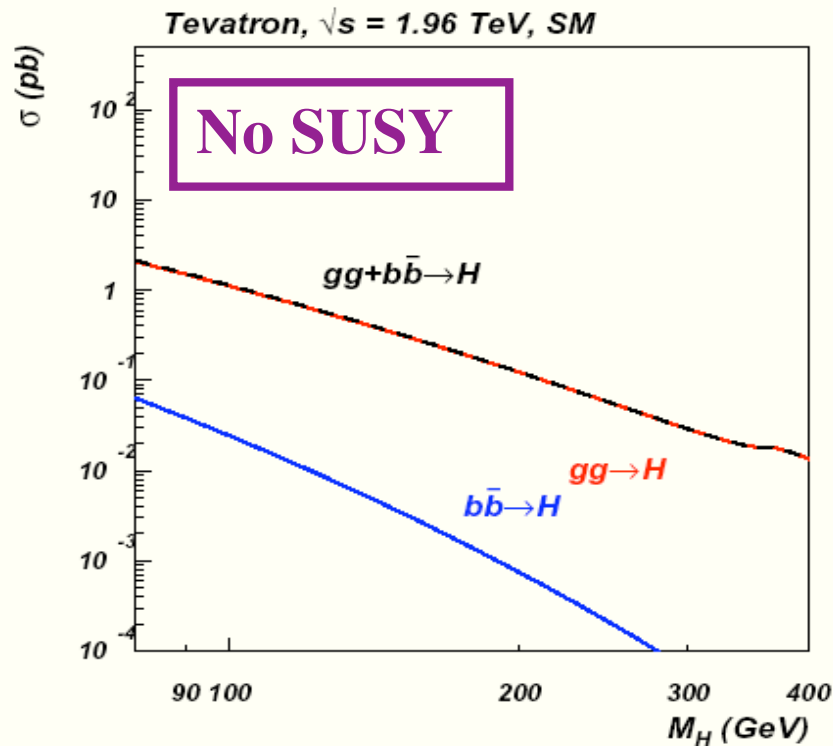


# Some Slides for Pier's Information

# SUSY enhances Higgs Cross Sections with $\tan^2\beta$



- Enhancement due to larger coupling to down-type quarks
- “Reasonable” values of  $\tan\beta$  are 5-50
- Limits from LEP:  $\approx 90$  GeV

# Higgs: $A \rightarrow bb$ vs $A \rightarrow \tau\tau$

- The two searches are complementary
- $bA \rightarrow bbb$ :
  - $BR(A \rightarrow bb) = 90\%$
  - Backgrounds large  $\Rightarrow$  require another b-jet in event ( $>15$  GeV)
  - Smaller cross section but larger branching ratio
- $A \rightarrow \tau\tau$ 
  - $BR(A \rightarrow tt) = 8\%$
  - No requirements of additional jets necessary
  - Larger cross section but smaller branching ratio
- Will gain from combination:
  - Different datasets and different systematics  $\Rightarrow$  nearly uncorrelated

