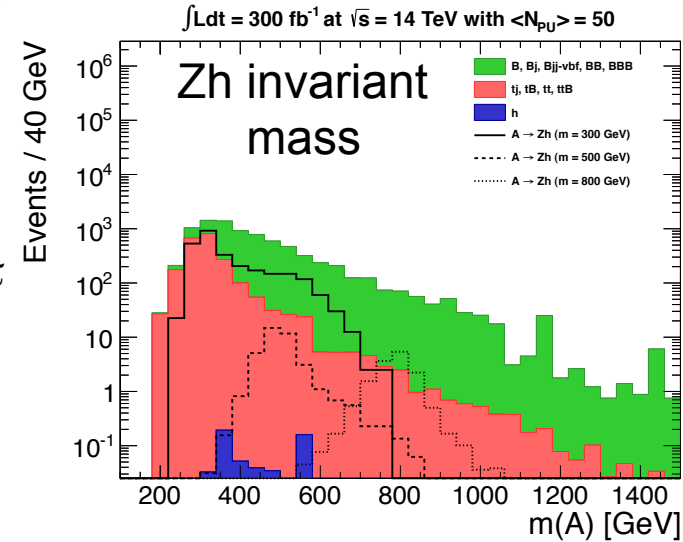


2HDM @ Hadron Colliders

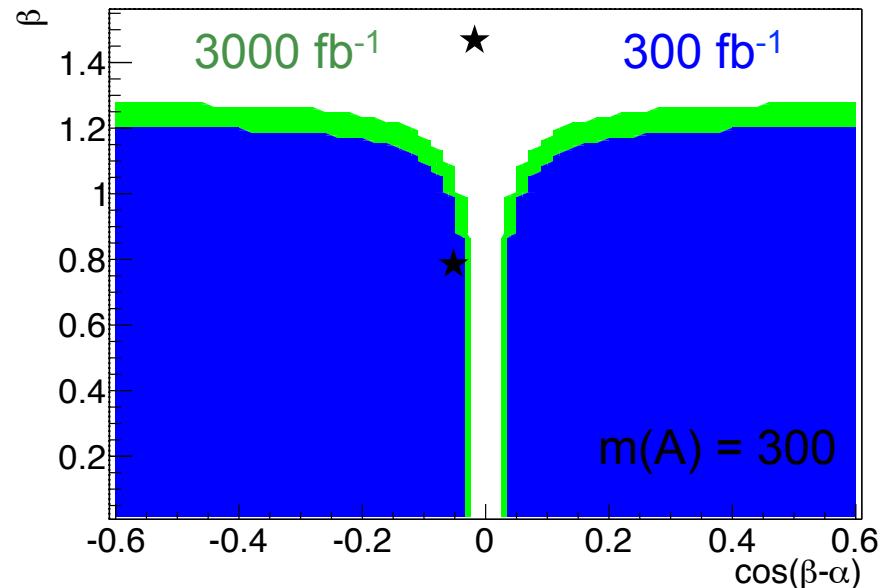
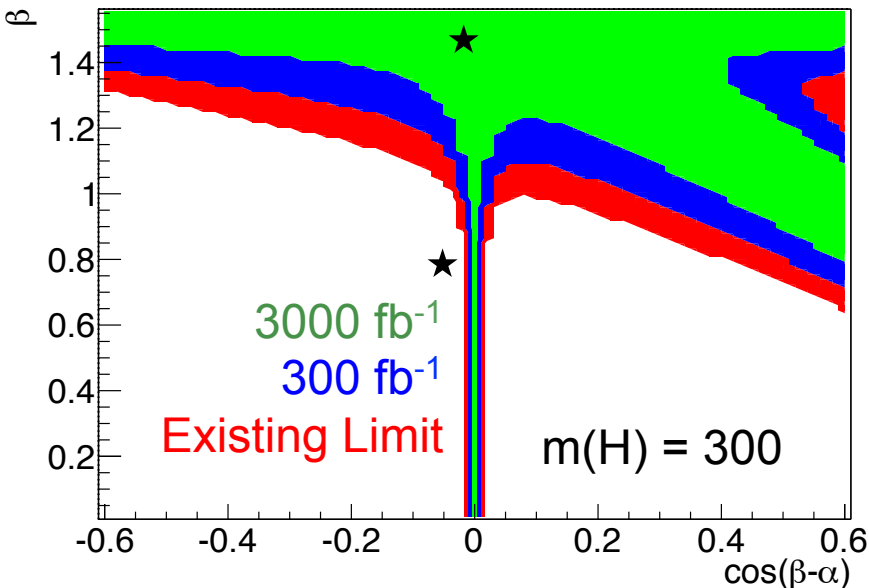
E Brownson, N Craig, U Heintz, G Kukartsev, M Narain, N Parashar, J Stupak

- Extended Higgs sector in many natural models
 - 2HDM = low-energy, effective field theory description
 - Free parameters: α , β , m
- Resonance search: $H \rightarrow ZZ \rightarrow 4l$ and $A \rightarrow Zh \rightarrow ll+bb/\tau\tau$
 - $s^{1/2} = 14 \text{ TeV} - 300 \text{ fb}^{-1}$ (3000 fb^{-1}) with $\langle N_{PU} \rangle = 50$ (140)
 - $s^{1/2} = 33 \text{ TeV}$ in progress



95% CL allowed region - $H \rightarrow ZZ$

5σ Reach - $A \rightarrow Zh$



2HDM @ Hadron Colliders

