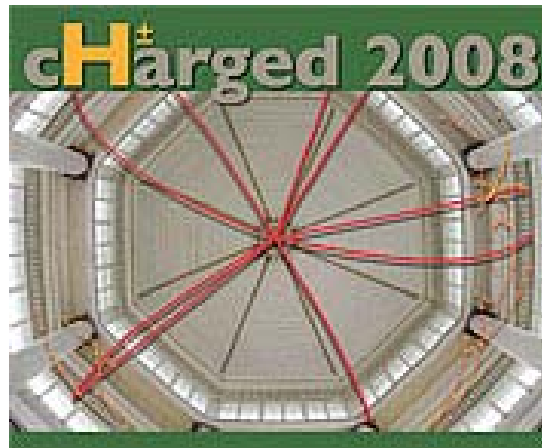


Working Group 1: Charged Higgs in MSSM: searches through on-shell production and decays involving SM fermions, vector bosons, and Higgs bosons in 2HDM II

Members (so far)

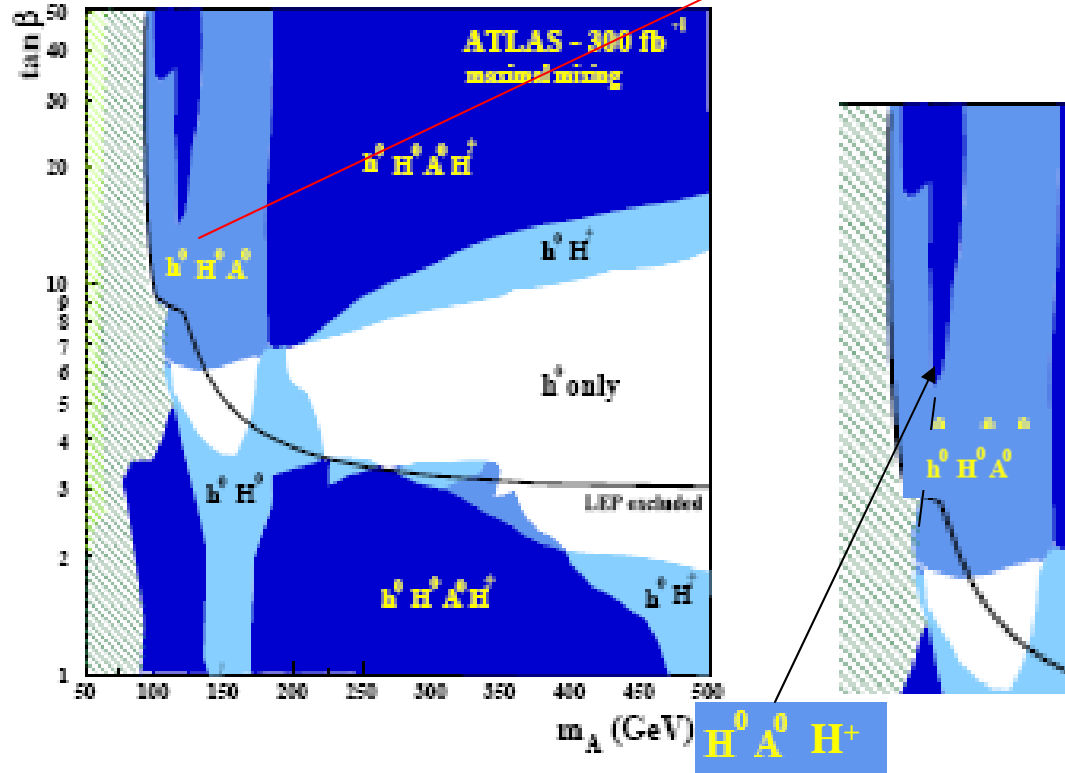
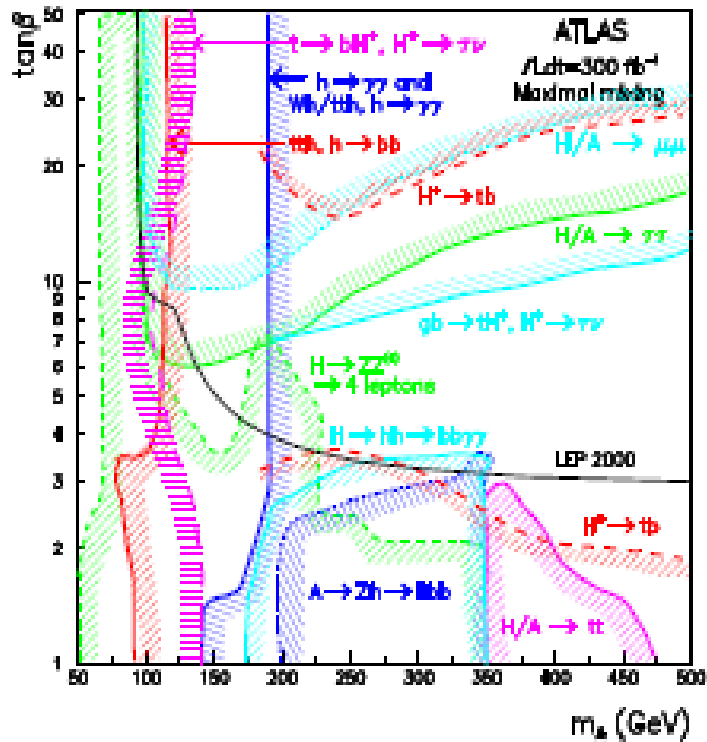
Johan Rathsman, Dhiman Chakraborty, Elias Coniavitis
(more needed)



Uppsala, 19 Sep 2008

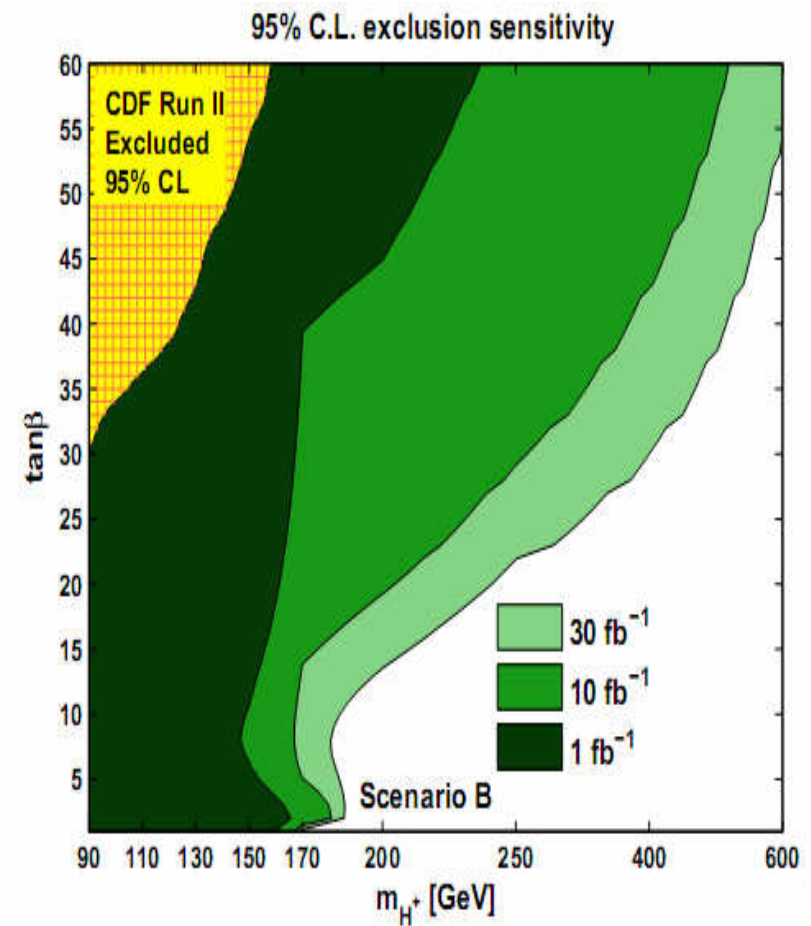
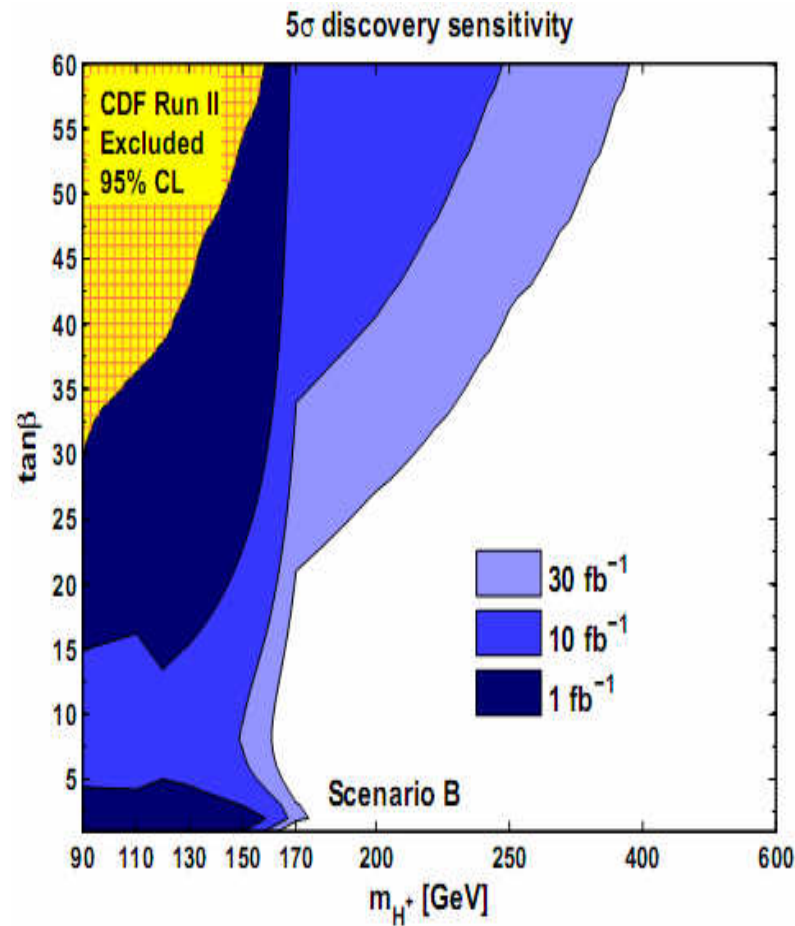
MSSM Benchmarks

Wrong !



- Earliest searches in $tt \rightarrow H^+bWb$ for H^+ lighter than the top quark
 - excess in final states containing tau leptons
 - dilepton:single-lepton branching ratio and other fits to SM
- Next searches for tH^+b for H^+ heavier than the top quark – single top production cross section and kinematics. Still, $H^+ \rightarrow \tau\nu$ most promising
- $pp \rightarrow W^* \rightarrow AH^+$ and other HHV or HVV vertices in the wedge region around $\tan\beta = \sqrt{(m_t/m_b)} \approx 6$, where H^+tb coupling is small.

Combined results



Here limited size of MC sample is ignored
(assuming infinite MC sample size)