



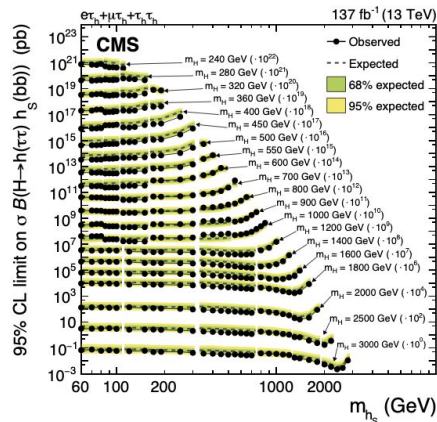
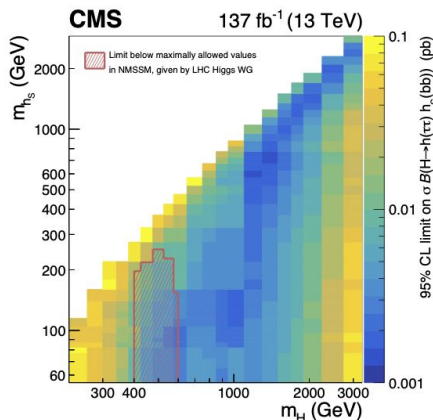
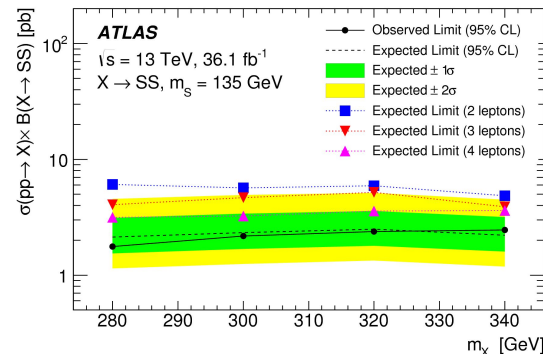
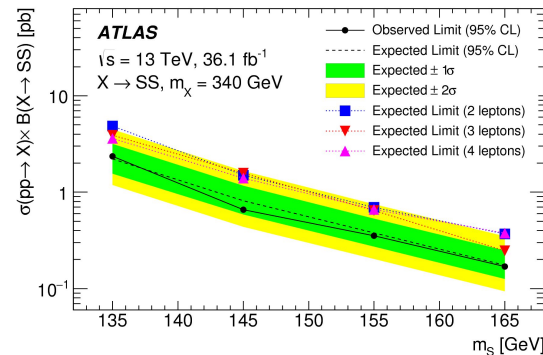
Experimental SH/SS plans

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Currently available results

- ATLAS $X \rightarrow SS \rightarrow 4W \rightarrow 2/3/4$ leptons
 - 36 fb^{-1}
 - $280 \text{ GeV} \leq m_X \leq 340 \text{ GeV}$ and $135 \text{ GeV} \leq m_S \leq 165 \text{ GeV}$
 - Model-independent limits
- CMS $X \rightarrow SH \rightarrow bb\tau\tau$
 - 137 fb^{-1}
 - $240 \text{ GeV} \leq m_X \leq 3 \text{ TeV}$ and $60 \text{ GeV} \leq m_S \leq 2.8 \text{ TeV}$
 - Model-independent and NMSSM limits



Discussion points

- Goals: ATLAS/CMS harmonization and feedback from theorists
- Insufficient time to discuss all items in detail
 - Create document as basis for offline discussions - editable [here](#)
- Topics with open questions to address (not an exhaustive list):
 - Production and decay modes
 - Is there motivation to search for VBF or other production modes?
 - What are the highest priority final states for experiments to focus on?
 - MC sample generation
 - Which generators/models should be used?
 - Presenting results
 - 1D or 2D limits?
 - Combined decay modes or separate? If combined, what BR(S) assumptions?
 - How useful are model independent searches?
 - Other considerations/requests from theorists?
 - Future ATLAS+CMS combination
 - Are harmonized generator models and signal mass points necessary?