

Ricerche di Higgs esotici

Discussione

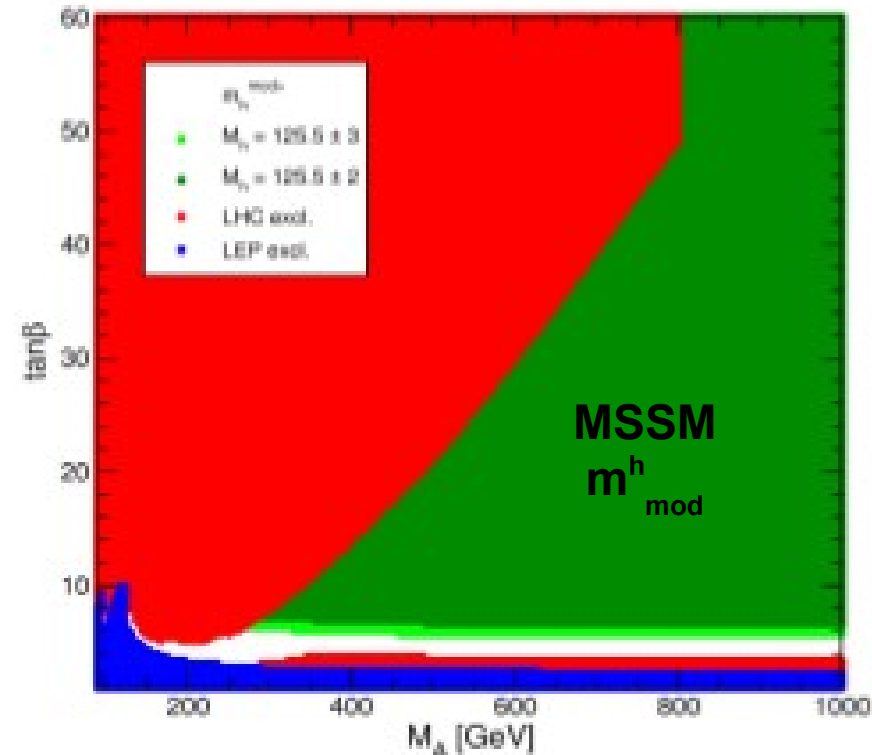
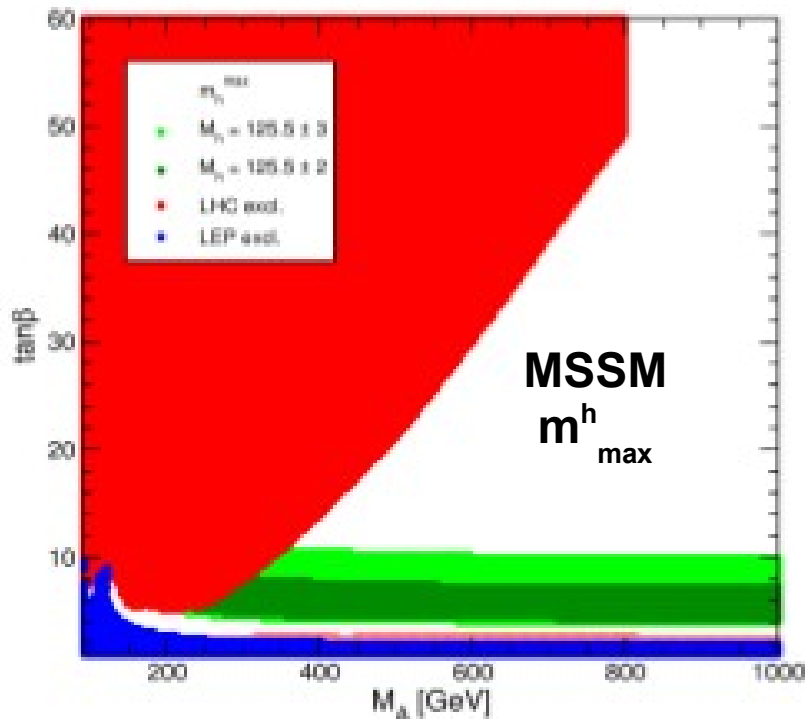
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A Meeting

anywhere, anytime

- H(125) is very much SM-like
 - Any BSM model must have H(125) SM-like as the lightest (?) Higgs
- MSSM still possible in tuned scenario:
 - Standard MSSM m_{max}^h not favoured with H125, but other tuning are possibles [arXiv:1302.7033]



- *“Any specific model is most certainly wrong”*
- Model independent searches?
 - Study feature of H(125): any hint of non-SM-likeness?
 - For direct searches it is difficult:
 - benchmark scenario still needed
 - Beyond (n)MSSM:
 - SM plus EW-singlet
 - General 2HDM (type I and II)
 - $|\cos(\alpha-\beta)|$ vs $\tan\beta$
 - Even more n-plet?
 - ...

- **Issue for future**

- Higgs searches not directly dominated by energy threshold effect (as direct SUSY searches)
 - Statistics helps
- Trigger will become increasing difficult:
 - Higher threshold for general-purpose triggers
 - Or topological well define path (both L1 and HLT)
 - Quite model-dependent

Channel	ATLAS	CMS
MSSM		
$\phi \rightarrow \tau\tau$	✓	✓
$\phi \rightarrow \mu\mu$	✓	✓
$\phi \rightarrow bb$		✓
$H^{\pm} \rightarrow \tau\nu$	✓	✓
$H^{\pm} \rightarrow cs$	✓	
NMSSM		
$a \rightarrow \mu\mu$	✓	✓
$H \rightarrow aa \rightarrow \mu\mu/\gamma\gamma$	✓	✓
Other		
$H \rightarrow \text{invisible}$	✓	
$H^{++} \rightarrow \text{leptons}$	✓	✓
SM4	✓	✓
FermioPhobic	✓	✓