

EF08: BSM

Specific explorations

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BSM Physics

■ BSM Physics

- **EF08: Model specific explorations (simplified models): SUSY, composite models, extra dimensions, ...**
- **EF09: More general explorations: New bosons, new fermions, MET signatures, long-lived particles, EFT, ...**
- **EF010: Dark matter at colliders**

General Information

- **Kickoff meeting:** to be scheduled during the week of July 13-17 (will create doodles to fix the time slot) to collect ideas/interests, manpower and contributions etc.
- **Weekly or bi-weekly meeting** to be scheduled after kickoff meeting to discuss the status/progress/issues ... (US EF08 bi-weekly indico: <https://indico.fnal.gov/category/1142/>)
- **Mail list of EF08:** snowmass-EF08-CEPC@cern.ch (welcome more people subscribe to the e-group or let me add you directly if you'd like to contribute)
- **Working TWiki page** (only skeleton currently): <https://twiki.cern.ch/twiki/bin/viewauth/Atlas/BsmAtCepec> (to be migrated to IHEP to let more people have access rights)
- **Wechat group:** Snowmass EF08

Manpower (to be growing...)

11 units	Manpower (13 staffs)	5 units	Manpower (12 postdocs+students)
IHEP	Xuai Zhuang	IHEP +NKU	Huajie Cheng (IHEP) Chenzheng Zhu (IHEP) Yuchen Cai (IHEP) Shiyi Liang (IHEP) Jiarong Yuan (NKU+IHEP)
	Da Xu		
ITP	JinMin Yang		
	Tianjun Li	ITP	Maria Lopez-Ibanez (ITP) Daohan Wang (ITP) Tethn Man (ITP) More students from Tianjun?
T. D. Lee inst.	Shu Li		
NKU	Minggang Zhao		
NNU	Lei WU		
YTU	Bin Zhu		
SYSU	Chengcheng Han	NNU	Han Zhou (NNU) Jianfeng Tu (NNU)
Monash Uni.	Yang Zhang		
Jinan Uni.	Mengchao Zhang	BJTU	Jiheng Guo Wulong Xu
BJTU	Wenyu Wang		
HNU	Qingjun Xu		

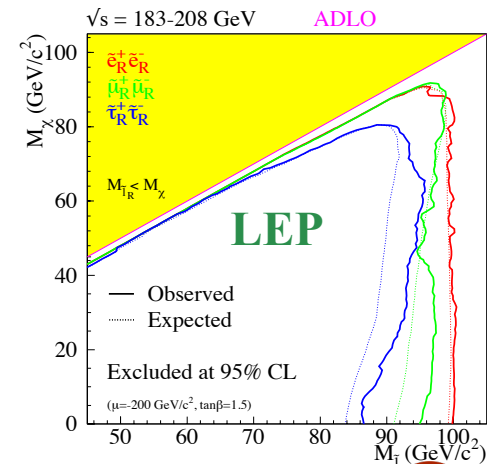
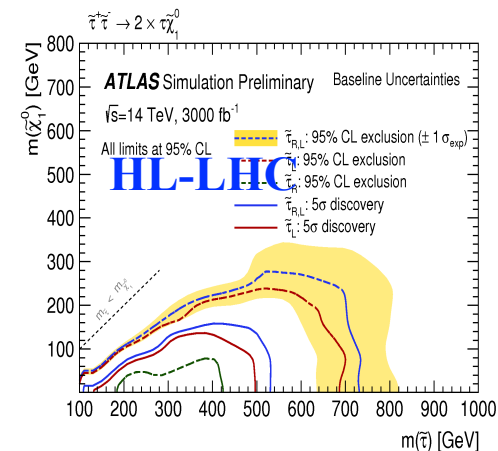
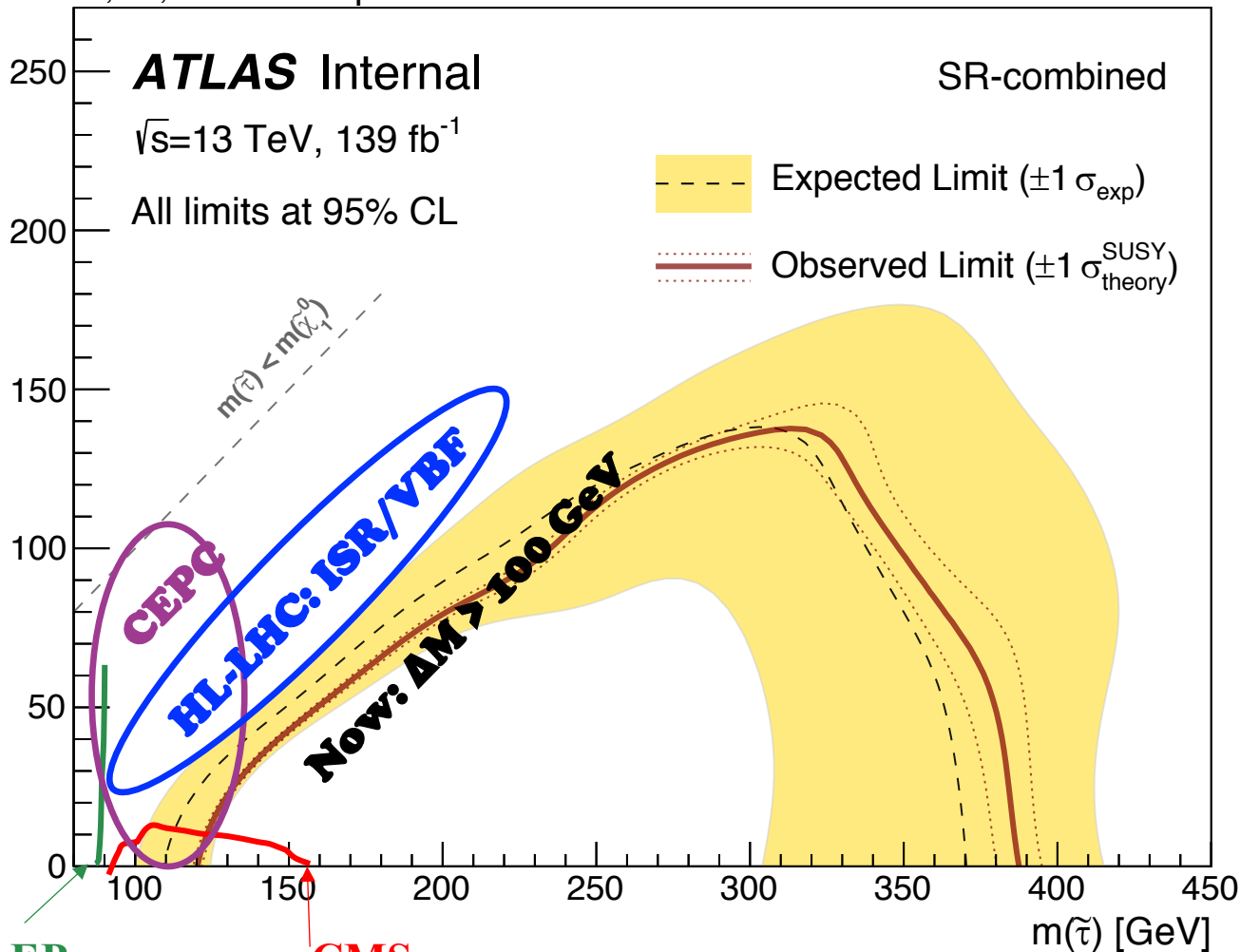
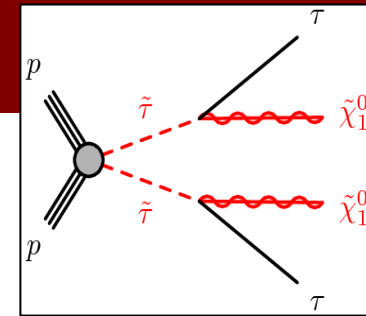
Current results from SUSY@CEPC

More to be discussed at kickoff meeting

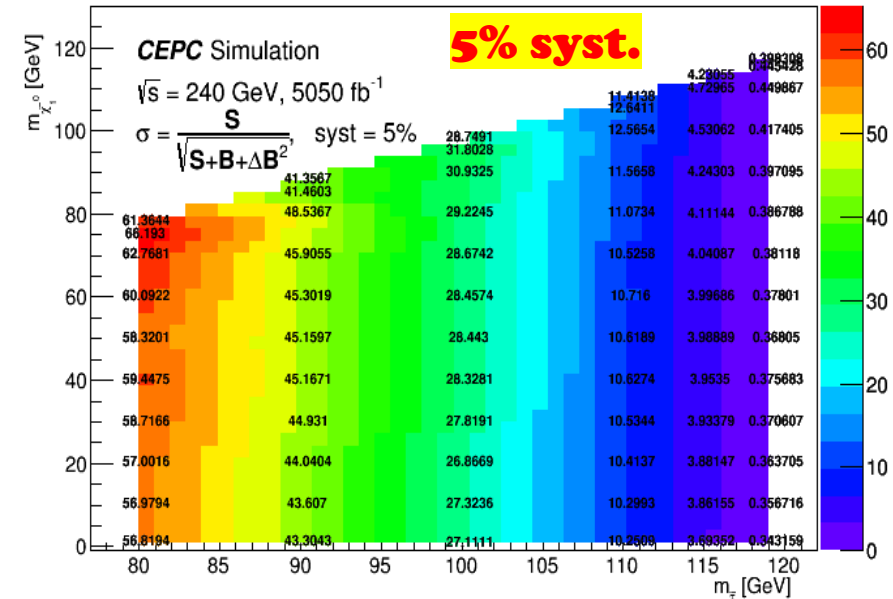
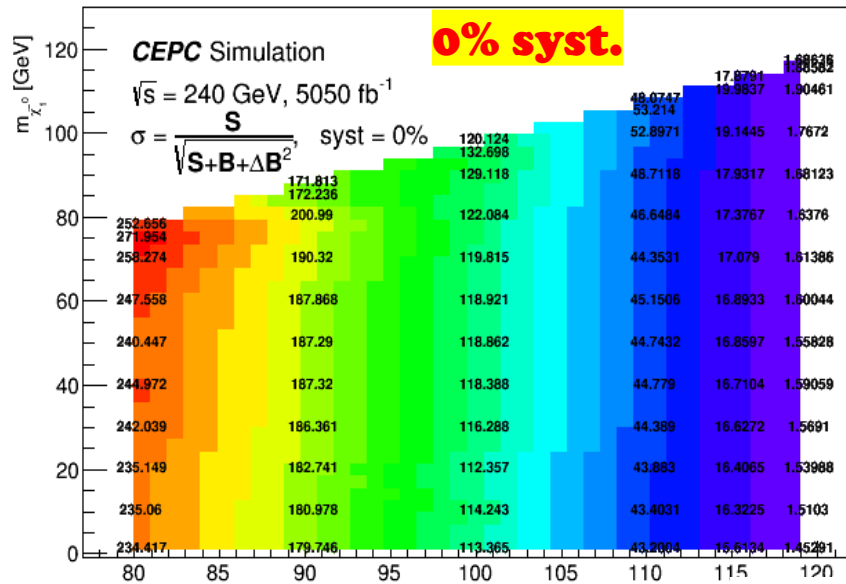
Stau pair

- CEPC can cover very compressed regions ($dM < 2-50$ GeV)
- CEPC can search for stau_R (no discovery potential at LHC)

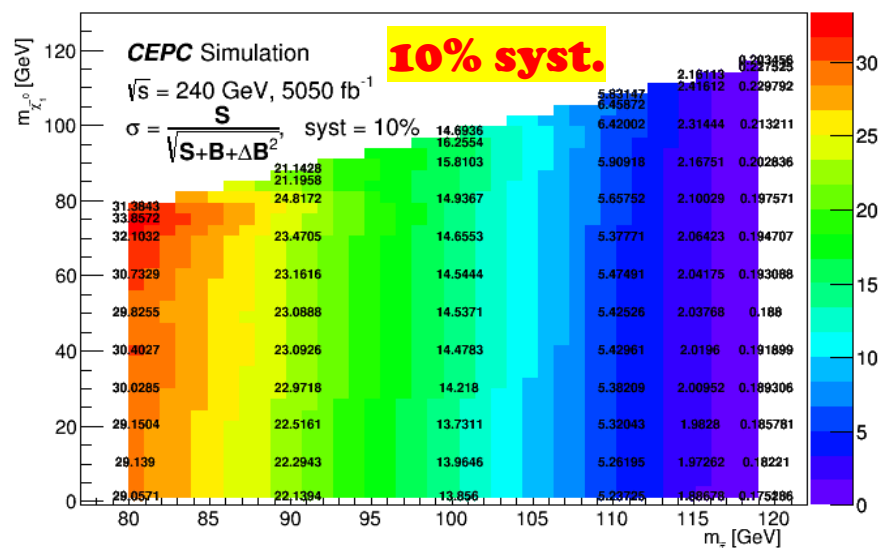
$$\tilde{\tau}_{R,L}^+ \tilde{\tau}_{R,L}^- \rightarrow 2 \times \tau \tilde{\chi}_1^0$$



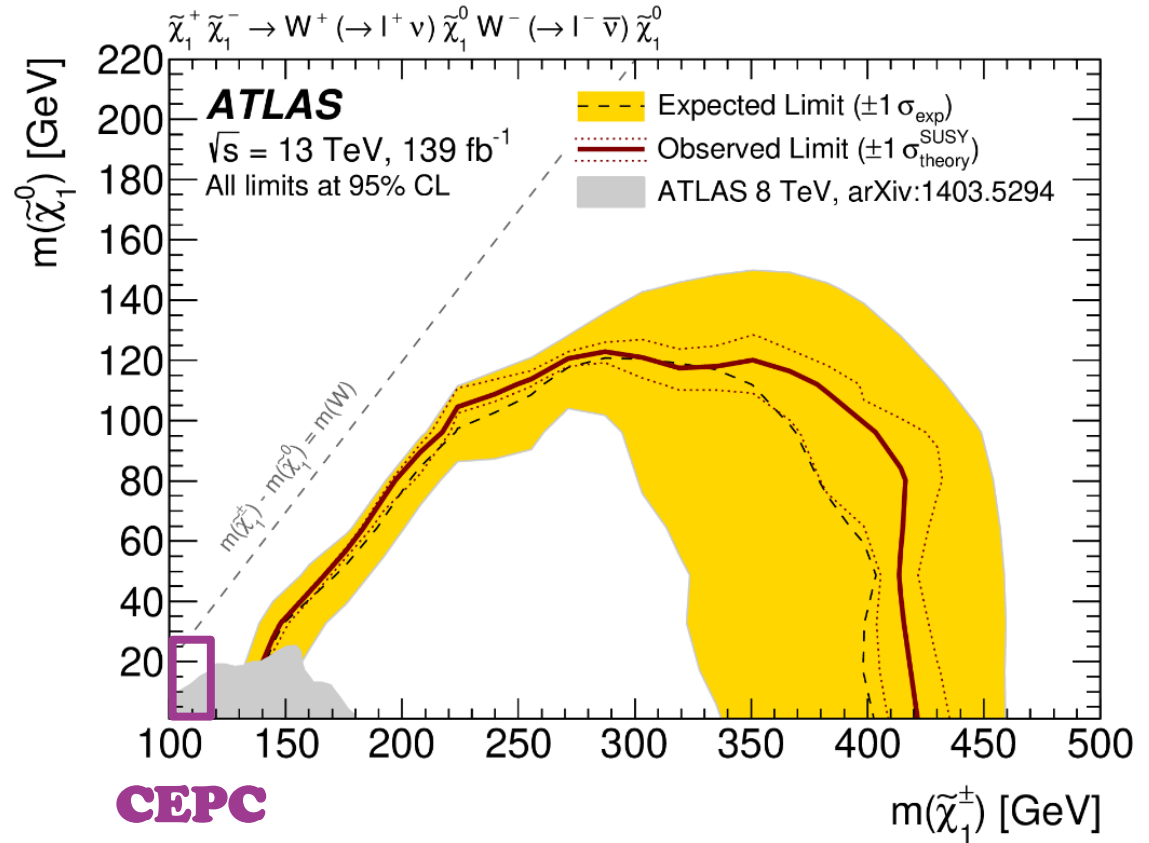
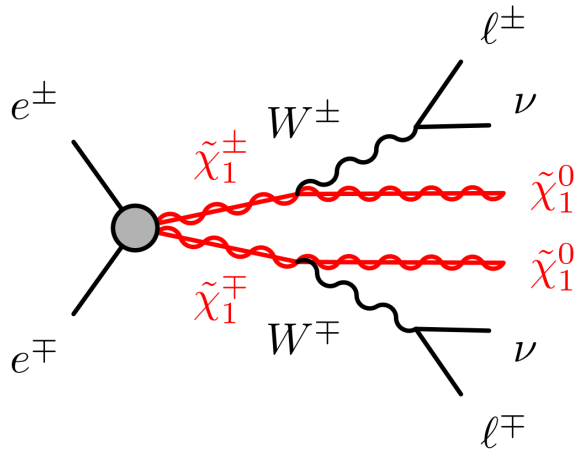
Stau search



The map use $\frac{S}{\sqrt{S+B+dB^2}}$
 as the sensitivity (stat
 + 0-10% syst)

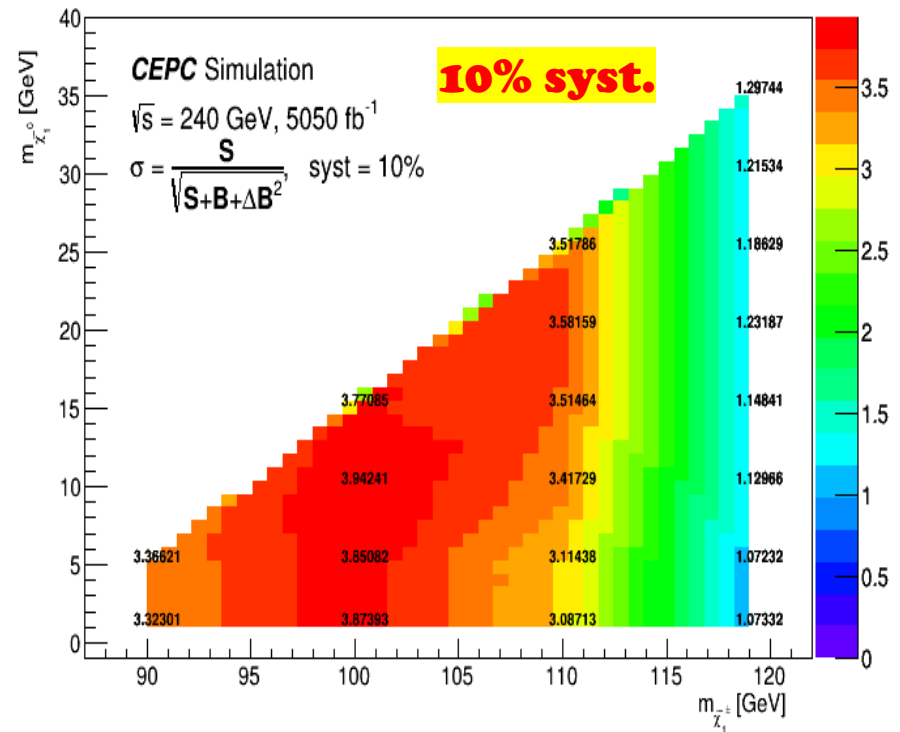
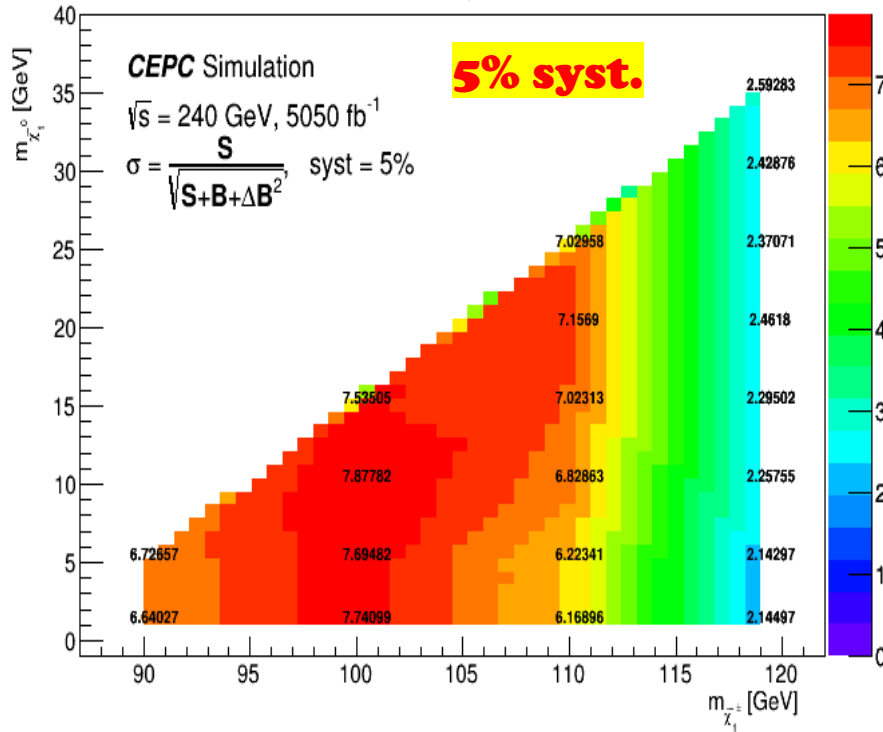


Gaugino pair



Gaungino search (only mu channel)

The map use $\frac{S}{\sqrt{S+B+dB^2}}$ as the sensitivity (stat + 5-10% syst)



- Above results to be improved, paper draft is preparing ...
- More scenarios (LLP, RPV, pMSSM scan ...) to be discussed at kickoff meeting

Backup

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