Activités de théorie pour le TDR

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New activities for TDR

- Activity I: Benchmark point for Super flavour factory:

  (i) The SPS (snowmass point and slope) is useful to see a correlation between collider (high PT) and flavour experiments.

  (ii) But current points are not favorable for flavour. Can't we find a nice point for SuperB (non-MFV, non-mSUGRA type)?

- Activity II: Impact of SuperB on specific SUSY breaking model:

  (i) SUSY breaking occurs at much higher energy than any future experiment can directly investigate.

  (ii) SuperB factory has an ability to distinguish the different SUSY breaking models indirectly. Can't we show what kind of signals each SUSY models predict?

First meeting will be held at LAL in 12-16 Oct.

Working group for benchmark

(Members: M. Ciuchini, T. Goto, E.Kou, A.Stocchi ...)

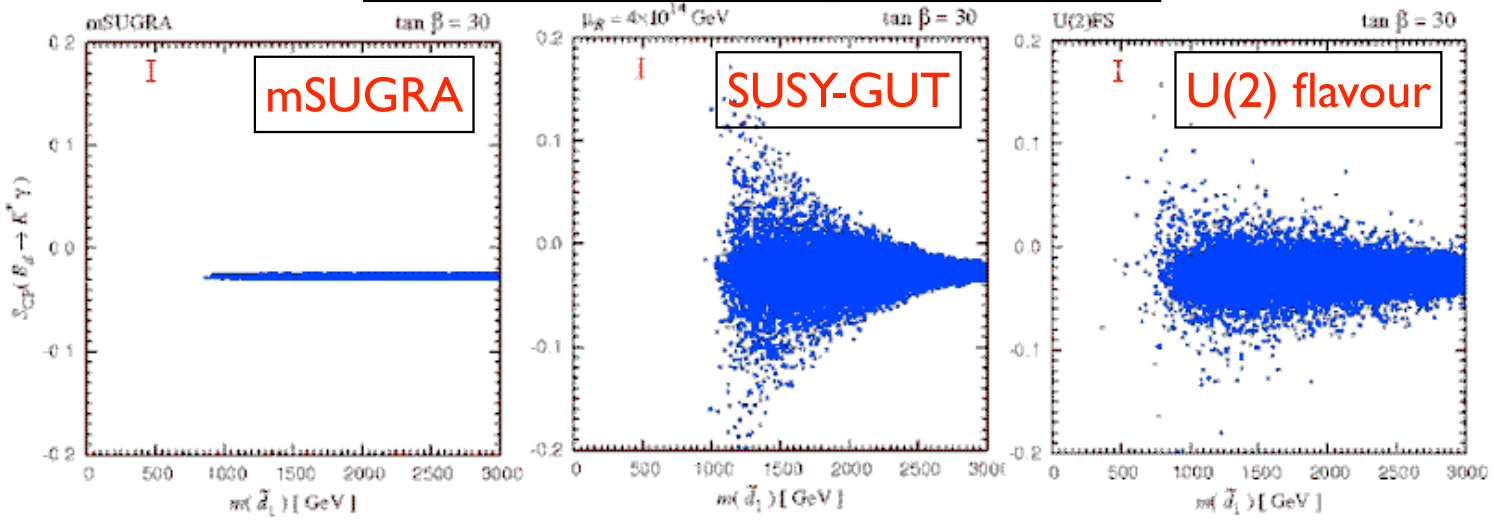
- Discussions/Problems discussed so far
  - ➡ SPS points are obsolete in any case (too naive, no higher order corrections...).
- There is a more recent work/tool also including more flavour channels (by G. Isidori, F. Ronga et al, arXiv:0907.5568)
  - ➡ New points are defined (SPS points ---> CMSSM, NUHM1 points...)
  - ➡ However, still, no CP violating modes are included in this new code, either...
- For TDR:
  - ✓ It might be better to define SuperB benchmark from scratch in our own way/tool...

Working group for specific model: I

(Members: M. Ciuchini, Y. Shimizu, E.Kou, A.Stocchi ...)

- Pattern of the SUSY effects are quite different depending on which SUSY models is assumed.

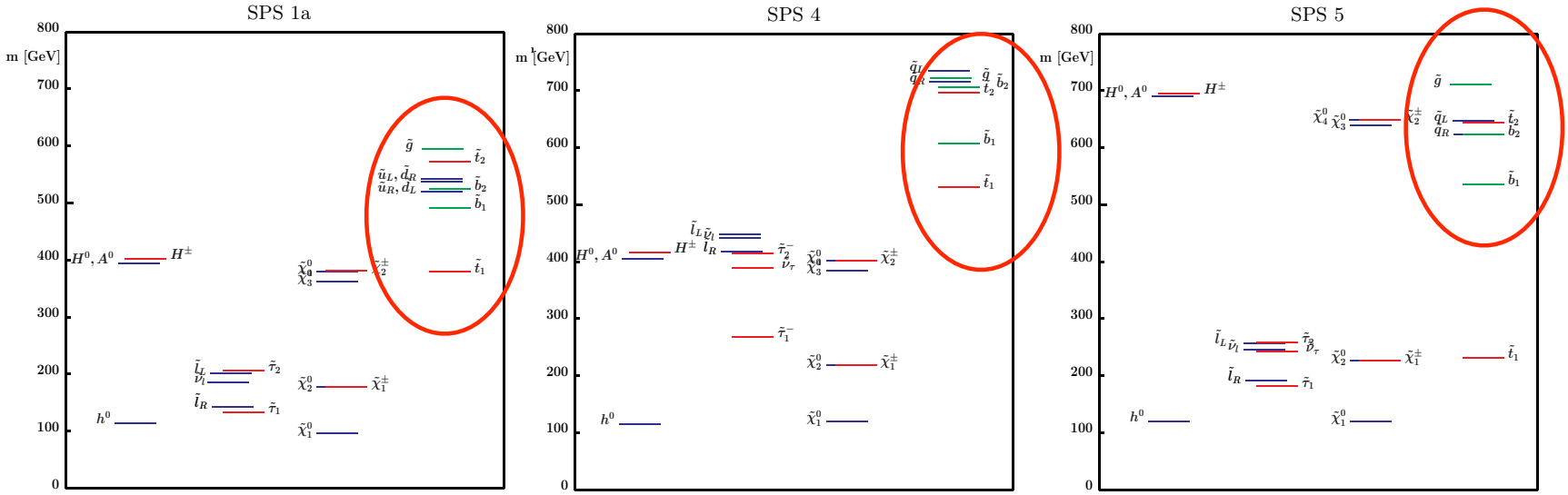
Example of CPV for B-> K* gamma



- For TDR:
  - ✓ Can't we project the prediction of of each model (mSUGRA, SUSY-GUT, U(2)...) on our usual mass insertion plot?

Working group for specific model: II

- Master code projects (SPS etc) provide very detailed squark mass spectrum. And these spectrum is used for the SUSY particle search at LHC.



- For TDR:

  ✓Can't we project the SPS points on the mass insertion plot? (further assumption might be necessary).