Plans for the 2010 Paper

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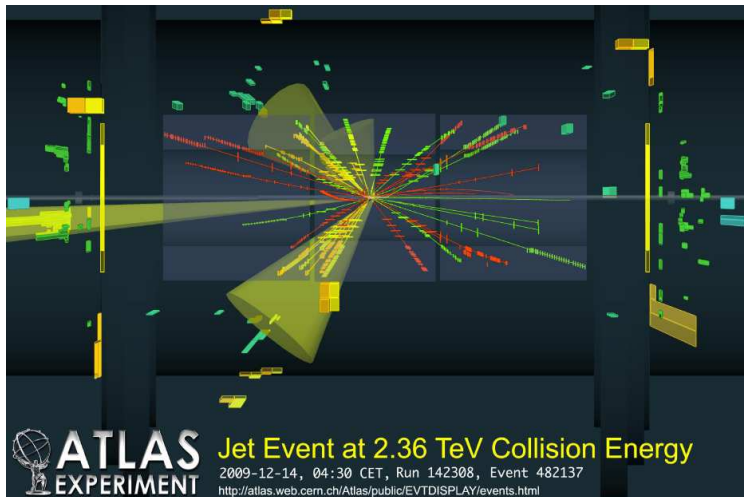

February 17th 2010

Not too many results since the
October Workshop . . .

Aims for the next Paper

- Repeat the LE fit separately with Mastercode and SPHENO and updated observables
- Try LE with MSSM18
- GMSB with LE and LHC+LE
- LHC and LHC+LE with assignment uncertainties
- LHC+LE+Rates vs LHC+LE
- Theorteical uncertainties from difference between calculators
- Include theoretical uncertainty from Q_{EWSB} scale as nuisance parameter
- Use photon spectrum information from indirect detection
- Have a look at direct detection limits
- Try NUH1

Details: mSUGRA

- LE with Q_{EW} as nuisance parameter
  - indiv. var. pull plot
  - Markov mass dists
  - markov par dists

  Message: Comaprison with old results shows effect of syst uncertainties (expected to be very small)

- LE with different selections of variables (Omega, g-2) $\rightarrow$ effects of variables

- LE with SPheno $\rightarrow$ Important comparison and show more independence of mastercode and systematics

- LHC and LHC+LE with Q_{EW} as nuisance parameter and with explicit inclusion of syst uncertainties
  - pulls
  - mass dists
  - more interesting plotting: e.g. overlay of LE, LHC and LHC+LE parameter spaces in the same plot! Need markovs also here

  Message: effect of systematics when compared to old results

Details: mSUGRA contd'

- LHC and LHC+LE with assignment uncertainties:
    - 2D plots of chi2
    - Decription of selection process (markovs etc)
    - pulls with and without selecting the result from the best fit
    - table of uncertainties with and without assignment troubles

    Message: Importance of assignment uncertainties

- LHC with and without rates $\rightarrow$ Added info from rates

Details: GMSB

- LHC and LHC+LE fits of GMSB → First such studies apart from Marks thesis
  - Pulls, mass dist plots

Details: NUH1

- Repeat parts of the mSUGRA fit with NUH1/NUH2

- LE and LHC+LE for MSSM18 with HiggsBounds and including mtop

Need in the near future

- Lots of optimizations of Markov Chain Proposal Widthes
- Micromegas 2.2 standalone and in Mastercode $\rightarrow$ (in)direct exclusion
- Values for the differences between prediction of different codes, disentangle this effect from Q_{EW}
- Scheme to include the rates
- Lots of computing power (NAF,BAF?)

Two papers?

- Separate in LE only and LE+LHC?