Higgsinos

1. Physics: What can be derived from observations of light higgsinos at ILC? Motivation for benchmark: naturalness. Motivation for my part: exploiting the precision measurements for maximal knowledge about unobserved sector
2. Status: close to final
3. Level of detail: loop-level theory, full sim experimental input
4. No requests for samples
5. LHC: One case has excess electroweakino and/or gluino search after high-lumi, other benchmark no signal at LHC
6. Limited interest at $\sqrt{s}$ =250 GeV. Chargino mass limit 103.5 GeV (extreme scenarios 92 GeV) from LEP leaving only $\sim 105 - 125$ GeV charginos accessible. C.f. natural higgsino mass scale $\sim$ 100-300 GeV

Stau coannihilation

1. Physics: What can be derived from observations of near-degenerate stau and LSP at ILC? Motivation for benchmark: explains dark matter. Motivation for my part: exploiting the precision measurements for maximal knowledge about unobserved sector
2. Status: starting
3. Level of detail: loop-level theory, SGV experimental input
4. No requests for samples
5. LHC: By design should see excess in sbottom decays after 50-300fb^{-1}, also maybe extended Higgses and sleptons but benchmark could be tuned to avoid these.
6. Limited interest at $\sqrt{s} = 250$ GeV. LEP limit on $\widetilde{\tau}_1$ mass is 87-93 GeV. Accessible stau mass range would then be 90-125 GeV with no a priori reason to expect stau in this mass range.