Working group 1
Status and plans for the final report

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General outline

High-pt flavour physics can be naturally divided in a few broad sectors. Since the spring, we organized five subgroups, each with three contact persons (ATLAS+CMS+theory):

- SUSY leptonic sector Werner, Lari, Krasnikov

Scalar lepton spectroscopy, lepton flavour violation in SUSY decays, …

- SUSY hadronic sector Klasen, Tricomi

Scalar quark spectroscopy/flavour identification, non-diagonal (in CKM basis) mass matrices, …

- Non-SUSY Aguilar-Saavedra, Unel

Flavour issues in all non-SUSY models

- Top Castro, Burdman

Rare (FCNC) production/decay, anomalous couplings, electroweak corrections

- Tools Krauss, Moortgat, Polesello

In collaboration with WG2: codes to go from model parameters to low-pt, high-pt physics, interfaces etc.

General outline (II)

After some discussion, we decided that the WG1 part of the report should also be divided in sections corresponding to the subgroups.

As a starting point, each section is going to have an introduction, and then the individual contributions.

Second phase: some contributions will be merged. Examples: similar analysis from ATLAS and CMS, or theory+experiment work (in some instances different groups are already working together to provide one document). Also editing, cross-references, overlaps with WG2 and WG3.

About 12 contributions per section, 2 pages+references each. Order of 4-5 pages for each introduction. Total length should be around 150 pages.

The Tools section will appear under WG2 part (contains WG1 and WG2 contributions).

SUSY leptons

- Effects of lepton flavour violation on di-lepton invariant mass spectra (TH)
- Lepton flavour violation in the long-lived NLSP scenario (TH)
- SUSY (s)lepton flavour studies with ATLAS
- Using the eμ +E_T^{Miss} signature in the search for supersymmetry and lepton flavour violation in neutralino decays (CMS)
- Using the ll+EtMiss+jet veto signature for slepton detection (CMS)
- Lepton flavour violating decays in models with R-parity violation (TH)
- Reconstruction neutrino properties from collider experiments in a Higgs triplet neutrino mass model (TH)
- Searching for lepton number violating neutralino decays (ATLAS-1)
- Lepton flavour violation in netralino decays with (ATLAS-2)
- Flavour and CP in slepton decays (TH)

SUSY hadronic

- Gaugino mass with squark pair production with CMS
- Stop/sbottoms in models with right neutrino LSPs (TH)
- Higgs FCNC decays (TH)
- H->bs and B-physics in the MSSM with NMFV (TH)
- SUSY-CKM matrix determination (TH)
- Squark flavour violating decays (TH)
- scharm-stop mixing (TH)
- Hadronization in BNV SUSY decays (TH)
- Search for a light stop
- A study of the detection of a light stop squark with ATLAS
- Search for stop in CMS
- Squark reconstruction with CMS
- Effect of stop-scharm mixing (?)

Non-SUSY

- Q=2/3 discovery potential with ATLAS
- Q=2/3 enhancments to Higgs production (ATLAS)
- 4^{th} generation indirect effects at LHC/meson physics (TH)
- 4^{th} generation: distinguishing models (TH)
- FCNC in two-Higgs doublets models (TH)
- Neutrino flavours and LHC phenomenology within the Randall-Sundrum model (TH)
- KK quarks in Randall-Sundrum WW final state
- Q=-1/3 singlets studies with ATLAS
- 4^{th} generation discovery potential at LHC (TH)
- 4^{th} generation enhancements to Higgs production (TH)
- Heavy neutrinos (TH)
- Q=2/3 singlets indirect effects at LHC/meson physics (TH)
- Leptoquarks
- Search for W' in ATLAS
- Search for Z^1,Z' and G^1 in CMS
- Flavour violation in warped extra dimensions
- Little Higgs

Top

- Wtb anomalous couplings in top quark decays (ATLAS)
- Measurement of Vtb in single top production (TH)
- Top quark production at the LHC in the effective lagrangian approach (TH)
- FCNC in top decays: study of ATLAS and CMS sensitivity
- Single top quark production by direct SUSY FCNC interactions at the LHC (TH)
- Testing the NMFV MSSM with precision observables (TH)
- Electroweak precision tests (top, W, Higgs) (TH-2)
- Electroweak corrections in single top and ttbar production (TH-2)
- FCNC in top production (ATLAS)
- Wtb anomalous couplings in single top production (TH)
- Non-standard contributions to ttbar production (TH)
- Limits from B factories (?)
- Electroweak correction in single top and ttbar (ATLAS)

Some contributions will obviously be merged….

Schedule/next steps

- We would like to have ALL the contribution some 3 months before printing the YR, to allow the necessary time for editing and interaction loops with other WGs.
- End November?
- We would then like to hold a meeting to go through the report and discuss editing issues – the date is still being discussed.
- Need also to interact to the other WGs