

Collider aspects of flavour physics at high Q

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on behalf of Luc and Tommaso

- Who are we?
- The tasks
- Conclusions

Who are we

The conveners

- Luc Pape
- Tommaso Lari
- Werner Porod

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and most importantly: You

The tasks

- Explore/document the potential of Atlas/CMS for BSM flavour studies
- Identification of observables which allow different models to be distinguished
 - between different model classes, e.g. SUSY and UED
 - between different realization of a particular model class, e.g. MSSM with MFV or additional flavour structures

Subjects

- Flavour phenomena in top decays
 - FCNC
 - anomalous couplings: constraints from EW precision tests & B decays versus direct measurements
- Flavour phenomena in the strong sector
 - \tilde{t} , \tilde{b} versus other \tilde{q} : separation and identification
 - electroweak baryogenesis and light stop models
 - E_6 isosinglet quarks and flavour physics

- Flavour phenomena in the (s)lepton sector
 - slepton spectroscopy: separation of \tilde{e} , $\tilde{\mu}$, $\tilde{\tau}$, mixing angles, $\tilde{\nu}_i$
 - CP & flavour violation in the slepton sector
- flavour violation in \tilde{g} , $\tilde{\chi}_i^0$, $\tilde{\chi}_j^\pm$
- Non-SUSY flavour scenarios
 - split fermions in extra dimensions
 - BSM & flavour/CP violation: which scenarios
- Explore complementarity of searches/discoveries BSM @ LHC and the potential of low energy flavour physics; how can the information be used to get a coherent picture of the flavour sector

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⇒ we need your input, your ideas
feel free to suggest additional topics

A wish concerning presentations/write-up

please: do not only discuss the virtues of your favorite model, but

- potential of Atlas/CMS to study it
- focus on the flavour aspects, e.g. flavour identification of squarks, Kaluza Klein states, . . .
- flavour changing production/decays
- identify observables which can be used to distinguish it from other models

Moreover, we need discussions between experimentalists and theorists, understand the needs and difficulties of the other 'side'

⇒ Discussion session on Wednesday at 11:50

Conclusions

- Exciting times are ahead of us
- we need to be prepared to fully use the potential of LHC
- Lets get it done \Rightarrow your input is needed