

Portoroz 2013: Probing the Standard Model and New Physics at Low and High Energies

Contribution ID: 14

Type: **not specified**

The charming stop

Tuesday 16 April 2013 18:01 (22 minutes)

While the presence of top partners below the TeV scale is predicted by naturalness, the search at ATLAS and CMS for these states has so far been unsuccessful. Focussing on supersymmetry, we show that a large mixing between the right-handed charm and top squarks

- (i) is allowed by low-energy flavour constraints;
- (ii) reduces the experimental bound on the stop mass;
- (iii) has a mild, but beneficial, effect on μ -tuning;
- (iv) leads to interesting signatures at the LHC not presently investigated by experiments.

We estimate the current bound on the stop mass, in presence of flavour mixing, and discuss the new collider signatures.

Author: BLANKE, Monika

Presenter: BLANKE, Monika

Session Classification: Top quark I