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Squark flavour violation and naturalness at the LHC

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

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