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**Particle Cosmology
after Planck**

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Light Stop Decays with Flavour-Violation

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The search for Supersymmetry at the LHC is an ongoing task. Despite the LHC searches push the limits on coloured sparticles of the first two generations above the 1 – 1.5 TeV range, the lightest stop can still be rather light. The relevant stop search channels in the low-mass region are the flavour-changing neutral current (FCNC) decay of the lightest stop into a charm quark and the lightest neutralino and its four-body decay into the lightest neutralino, a down-type quark and a fermion pair. For the first time, the SUSY-QCD corrections to the two-body decay have been calculated and in the four-body decay both the contributions from diagrams with FCNC couplings and the mass effects of final state bottom quarks and tau leptons have been taken into account. The resulting branching ratios and the implications for LHC searches are investigated in detail.

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