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A fresh look at proton decay in SUSY SU(5)

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We show that assuming flavour violation in the first two generations
of sfermions in the decoupling limit leads to interesting consequences for proton decay. Assuming the decoupling sfermions lie within 30 TeV, for the decay mode $p \to e^+\pi^0$, which has sensitivity beyond that of DUNE and Hyper K is brought within the reach of those experiments. The most of the decay modes which is $p \to K^+\bar{\nu}_e$ which essentially rules this model out for this range of masses, is now able to survive and further interestingly can be explored at DUNE and HyperK. Finally partial decoupling has interesting consequences for the mode $p \to K^+\bar{\nu}_\tau$.

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