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Instanton mediated baryon number violation in gauge extended models.

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Instanton solutions of non-abelian Yang-Mills theories generate an effective action that may induce lepton and baryon number violation, namely $\Delta B = \Delta L = N_f$, being N_f the number of families coupled to the gauge group. It is well known that within the Standard Model the size of the violation is negligible, however this might not be longer true in non-universal gauge extended models. I will analyze instanton mediated $\Delta B = \Delta L = 1$ interactions within a $SU(2)_\ell \otimes SU(2)_h \otimes U(1)$ extension of the Standard Model that breaks the universality of couplings of the third family. I will apply these interactions to the study of proton decay and to the analysis of non-leptonic and radiative decays of the tau lepton.

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