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Title:	Effective sextic superpotential and B - L violation in NMSGUT
Authors:	Aulakh, C.S. (/jspui/browse?type=author&value=Aulakh%2C+C.S.) Awasthi, R.L. (/jspui/browse?type=author&value=Awasthi%2C+R.L.) Krishna, S. (/jspui/browse?type=author&value=Krishna%2C+S.)
Keywords:	superpotential MSSM NMSGUT quartic superpotential
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Abstract:	We list operators of the superpotential of the effective MSSM that emerge from the NMSGUT up to sextic degree. We give illustrative expressions for the coefficients in terms of NMSGUT parameters. We also estimate the impact of GUT scale threshold corrections on these effective operators in view of the demonstration that B violation via quartic superpotential terms can be suppressed to acceptable levels after including such corrections in the NMSGUT. We find a novel $B, B-L$ violating quintic operator that leads to the decay mode $n \rightarrow e-K^+$ . We also remark that the threshold corrections to the Type-I seesaw mechanism make the deviation of right-handed neutrino masses from the GUT scale more natural while Type-II seesaw neutrino masses, which earlier tended to utterly negligible receive threshold enhancement. Our results are of relevance for analysing $B-L$ violating operator-based, sphaleron-safe, baryogenesis.
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