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Seesaw dominance effects for neutrinoless double beta decay in left-right symmetric lens

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Within Neutrino Physics, Seesaw mechanism is a very important pillar, known to all. Various Seesaw types make it an interesting phenomenon to include and verify its validity in several low energy processes. Such a low energy and LNV ($\Delta L = 2$) process is the neutrinoless double beta decay ($0\nu\beta\beta$). If the $0\nu\beta\beta$ decay process is being observed in Left-right symmetric model, the effective mass of electron neutrino ($m_{eff}^{<0\nu\beta\beta>}$) would be a function of v_R (vev of right-handed Higgs triplet) and Majorana phases (α and β). This v_R is basically the high energy scale (Weinberg's dim = 5 operator), which allows to explore new physics beyond Standard model. The Left-right symmetric model in general includes Seesaw type-I and type-II mass terms as a hybrid mass for light neutrino and the percentage of type-I and II contributions (termed as dominance) differs for different solutions. We are studying different dominance patterns ($2^n, n = 3(gen)$) for the effective mass of ($0\nu\beta\beta$) decay with given experimental bounds (Kamland-Zen & GERDA).

Session

Neutrino Physics

Authors: Dr MISHRA, Sasmita (Dept. of Physics and Astronomy, NIT Rourkela); Mr BANERJEE, Vivek (Dept. of Physics and Astronomy, NIT Rourkela)

Presenter: Mr BANERJEE, Vivek (Dept. of Physics and Astronomy, NIT Rourkela)

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