List of Figures

1.1 Charged current and neutral current interactions ...................................... 5
1.2 Schematic diagram of the energy eigenvalues of $\nu_e$ ................................. 12
1.3 Neutrinoless double beta decay ................................................................. 19

2.1 ABJ anomaly diagram for $(B - L)$ current. Here, $\mu$, $\alpha$ and $\beta$ are the
polarizations, $k$, $p$ and $q = k - p$ are the external momenta. .................... 34
2.2 Degenerate vacua characterised by different $n$. The vertical axis is the
free energy, and the horizontal axis represents gauge and Higgs field con-
figuration. ......................................................................................................... 39
2.3 Tree level and one loop decay of heavy Majorana neutrinos. ................. 50
2.4 Vertex and self energy diagrams contributing to the asymmetry. ......... 51
2.5 Decays of Higgs triplets and possible asymmetries. ............................... 51