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Lepton number constraints from loop corrections to light neutrino masses in the low-scale SUSY Seesaw

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We show the analisis to one-loop light neutrino mass considering the Type-I Seesaw Model. In our work we have two parts: with and without SUSY. The mass insertion approximation method is applied to calculate the one loop corrections in SUSY considering diagrams that contain lepton number violation terms in order to observe its effects on the light neutrinos masses. In Non-SUSY case ($3+2$ and $3+3$ scenario), we can see the eigenvalues behaviour in the limit case when $M_5 >> M_6$ y $M_5 << M_6$. We focus on the problem of having too large corrections when the mixing between active and heavy neutrinos is enhanced. Different ways of solving this are outlined for each model, commenting on the type of fine-tuning involved.

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