

Solar neutrinos with non standard interactions

The solution to the problem of the flatness of the SuperKamiokande energy spectrum as observed by the data and which the LMA scenario fails to explain is investigated within the context of neutrino non standard interactions. We assume that these interactions come as extra contributions to the $\nu_\alpha\nu_\beta$ and $\nu_\alpha e$ vertices that affect both the propagation of neutrinos through solar matter and their detection. It is found that from the many possibilities of non standard couplings, only a limited number exist that lead to a flat spectrum with a good fit to the data while keeping other event rates unchanged with the exception of the Chlorine one whose prediction is improved with respect to the LMA one.

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