

Solar heavy neutrinos

Heavy neutrinos with masses in the MeV range could in principle simultaneously explain the light neutrino masses via the seesaw mechanism and the origin of baryonic matter in the universe through leptogenesis. Their properties are severely constrained by cosmological considerations, in particular primordial nucleosynthesis. Since these constraints rely on assumptions about the cosmic history, independent experimental tests are highly desirable. We show that the strongest constraints for masses below 15 MeV at present time can be obtained from the non-observation of an enhanced high energy electron flux in the interplanetary medium, originating from the decay of heavy neutrinos produced in nuclear reactions in the sun. We estimate this constraint with data from the Solar Orbiter.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

yes

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