TWO-FLAVOR OSCILLATION PARAMETERS AND LIMITS

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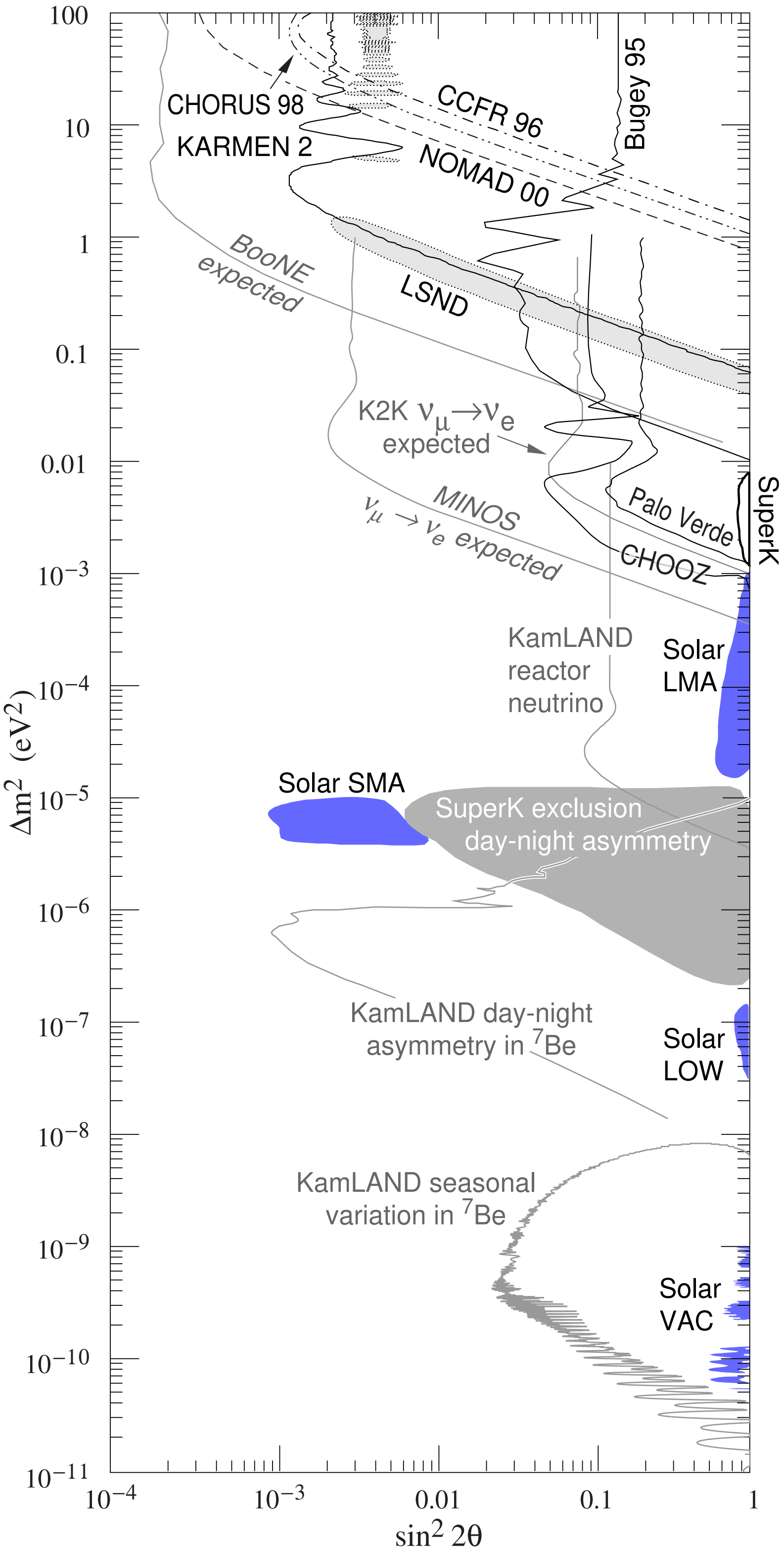

Figure 1: The most important exclusion limits as well as preferred parameter regions from neutrino oscillation experiments in the context of two-flavor oscillations. Beware that the plot shows oscillation modes on different pairs of neutrinos at the same time. All of them are 90% confidence limits unless otherwise noted. From the top,

- CCFR 96 limit is on ν_μ to ν_e oscillation from ROMOSAN 97
- KARMEN 2 excluded region and LSND preferred region are for $\bar{\nu}_e$ appearance from $\bar{\nu}_\mu$ taken from Klaus Eitel, New J. Phys. **2**, 1 (2000), Fig. 12
- Bugey 95 limit is on $\bar{\nu}_e$ disappearance from ACHKAR 95
- CHOOZ limit is on $\bar{\nu}_e$ disappearance from APOLLONIO 99, Fig. 9
- Palo Verde limit is on $\bar{\nu}_e$ disappearance from BOEHM 00, Fig. 3, curve (b)
- SuperKamiokande preferred region is on $\overset{(-)}{\nu}_\mu$ disappearance from FUKUDA 98C
- Solar neutrino preferred regions (solar LMA, solar SMA, solar LOW, and solar VAC) are on ν_e disappearance from J.N. Bahcall, P.I. Krastev, and A.Yu. Smirnov, Phys. Rev. **D58**, 096016 (1998) based on solar neutrino rates only at 99% CL
- SuperKamiokande exclusion is based on the absence of day-night asymmetry in the neutrino rate from FUKUDA 99, Fig. 2, at 99% CL
- Some projected improvements by near-future experiments on ν_e oscillations are shown in grey

Note that the plot shows only half of the parameter space $\Delta m^2 \cos 2\theta > 0$, while the other half $\Delta m^2 \cos 2\theta < 0$ should show different regions excluded/preferred, especially for solar neutrino oscillations (de Gouvêa *et al.*, `hep-ph/0002064`) once experiments report their data. References in upper-case letters are given at the end of the Listings for "Massive Neutrinos and Lepton Mixing."