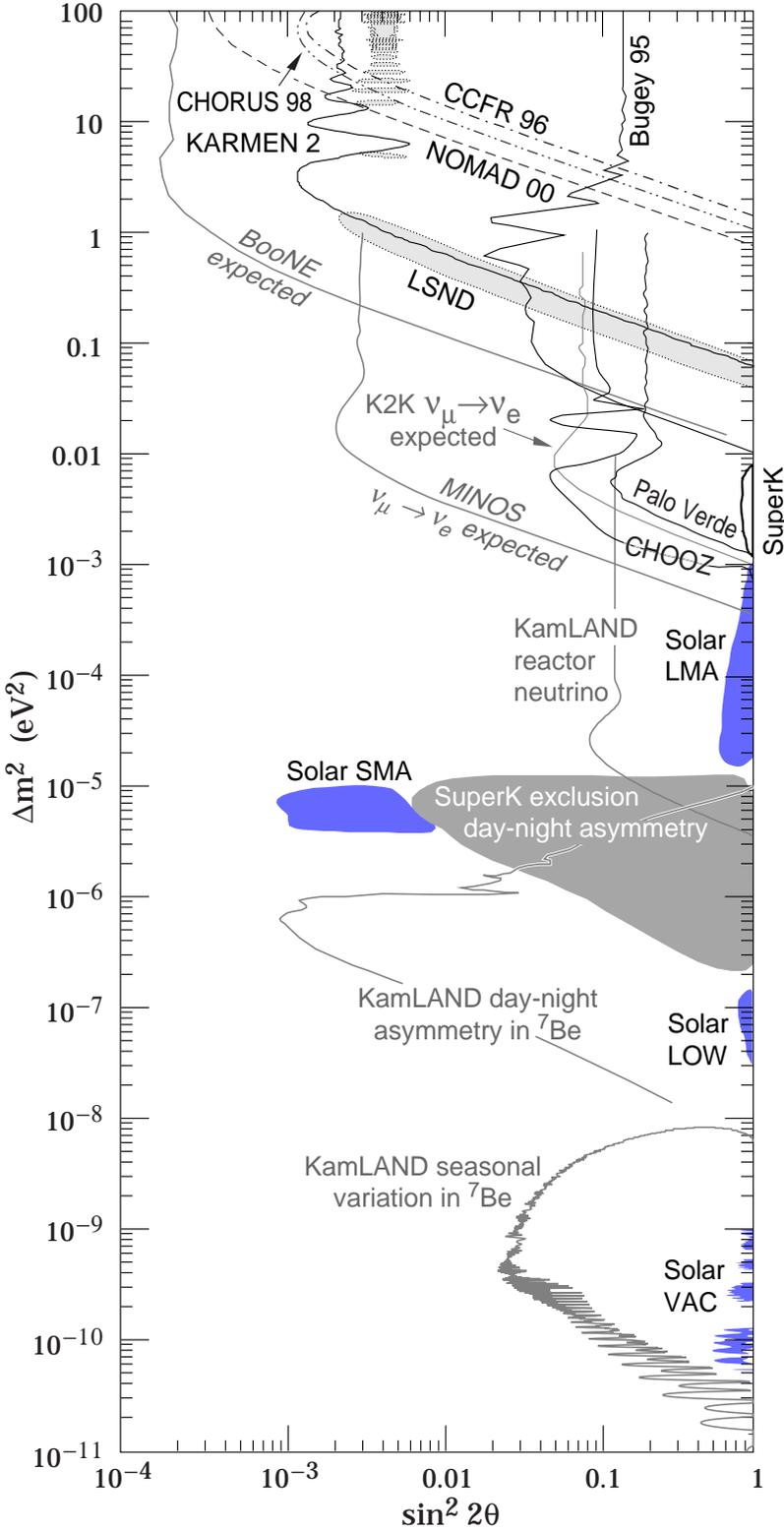


# TWO-FLAVOR OSCILLATION PARAMETERS AND LIMITS

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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  $\nu_\mu$  to  $\nu_e$  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  $\langle \bar{\nu}_\mu \rangle$  disappearance from FUKUDA 98C
- Solar neutrino preferred regions (solar LMA, solar SMA, solar LOW, and solar VAC) are on  $\nu_e$  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  $\nu_e$  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.”