NuFIT 1.2: Three-neutrino fit based on data available in September 2013

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Abstract: We present updated results for our global analysis of solar, atmospheric, reactor, and accelerator neutrino data in the framework of three-neutrino oscillations. If you use these results, please refer to both [1] and [2]. Data sets which have been updated with respect to NuFIT 1.1 are marked by the "⇒" tag.

Solar experiments

- Chlorine total rate [3], 1 data point.
- Gallex & GNO total rates [4], 2 data points.
- SAGE total rate [5], 1 data point.
- SK1 full energy and zenith spectrum [6], 44 data points.
- SK2 full energy and day/night spectrum [7], 33 data points.
- SK3 full energy and day/night spectrum [8], 42 data points.
- SK4 1069-day energy spectrum and day/night asymmetry [9], 24 data points.
- SNO combined analysis [10], 7 data points.
- Borexino 740.7-day low-energy data [11], 33 data points.
- Borexino 246-day high-energy data [12], 6 data points.

Atmospheric experiments

- SK1–4 (including SK4 1097-day) combined data [13], 90 data points.

Reactor experiments

- KamLAND combined DS1 & DS2 spectrum [14], 17 data points.
- CHOOZ energy spectrum [15], 14 data points.
- Palo-Verde total rate [16], 1 data point.
- Double-Chooz 227.9-day spectrum [17], 18 data points.

⇒ Daya-Bay 217-day total rates [18], 6 data points (with free normalization).

⇒ Reno 402-day near & far total rates [19], 2 data points (with free normalization).

- Short-baseline reactor data, 76 data points in total, see [20] for details.

Accelerator experiments

- MINOS 10.71×10^{20} pot ν_μ-disappearance data [21], 39 data points.
- MINOS 3.36×10^{20} pot $\bar{\nu}_\mu$-disappearance data [21], 14 data points.
- MINOS 10.6×10^{20} pot ν_e-appearance data [22], 5 data points.
- MINOS 3.3×10^{20} pot $\bar{\nu}_e$-appearance data [22], 5 data points.
- T2K 3.01×10^{20} pot ν_μ-disappearance data [23], 16 data points.

⇒ T2K 6.39×10^{20} pot ν_e-appearance data [24], 5 data points.

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