

Homework X: Beyond the Standard Model

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Short homework today after our lab visit. We finished up our discussion on the standard model and its extensions today, so the reading is largely about final theories.

Problem 1 Reading

Read chapters 10 and 11 of Oerter. Also read Chapters 9 (only to page 213) and 10 of Weinberg. Check out KATRIN via the links I posted.

Problem 2 Neutrino oscillations

Suppose electron neutrinos produced by a nuclear reactor travel 1.1 km before reaching a detector (this is the distance to the Double Chooz far detector). What fraction of the neutrinos reaching the detector are measured as other flavors?