



High Energy Physics - Phenomenology

Short-Baseline antinu_mu -> antinu_e Oscillations

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We analyze the recent results of the MiniBooNE short-baseline experiment on antinu_mu -> antinu_e oscillations in a minimal model-independent framework of antineutrino mixing in conjunction with the positive LSND signal and the negative KARMEN measurements. We show that the data of the three short-baseline antinu_mu -> antinu_e experiments are compatible. Taking into account also the model-independent constraints due to the limits on short-baseline antinu_e disappearance obtained in reactor antineutrino experiments, we find that the favored region of the effective oscillation parameters lies within $0.002 < \sim \sin^2 2\theta < \sim 0.05$ and $0.2 < \sim \Delta m^2 < \sim 2 \text{ eV}^2$.

Comments: 8 pages; improved analysis of MiniBooNE data

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