References for the Research Paper

Title: Evidence for muon neutrino oscillation in an accelerator-based experiment
Authors: K2K Collaboration: E. Aliu, et al
Comments: 5 pages, 4 figures
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We present results for ν_μ oscillation in the KEK to Kamioka (K2K) long-baseline neutrino oscillation experiment. K2K uses an accelerator-produced ν_μ beam with a mean energy of 1.3 GeV directed at the Super-Kamiokande detector 250 km away. The data sample is 8.9 $\times 10^{19}$ protons on target. In total, 107 events are observed in Super-Kamiokande; we expect 151^{+12}_{-10} if ν_μ does not oscillate. The neutrino energy spectrum distortion caused by ν_μ oscillation is also seen. The probability that we would observe these results if there is no neutrino oscillation is 0.0050% (4.0σ).
\\ (http://arXiv.org/abs/hep-ex/0411038 , 161kb)

Title: Recent Results of non-accelarator-based neutrino experiments
Authors: Yifang Wang
Comments: Plenary talk given at the "32nd International Conference on High Energy Physics", Aug. 16-22, 2004, Beijing, P.R. China
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Recent results of non-accelerator-based experiments, including those of solar, atmospheric, and reactor neutrinos oscillations, neutrinoless double-beta decays, and neutrino magnetic moments, are reviewed. Future projects and their respective prospects are summarized.
\\ (http://arXiv.org/abs/hep-ex/0411028 , 472kb)

Title: Precision measurements from the NOMAD experiment
Authors: R. Petti, for the NOMAD collaboration
Comments: 4 pages, 3 figures. To appear in the proceedings of the 32nd International Conference on High-Energy Physics (ICHEP04), Beijing, China, 16-22 Aug 2004
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The NOMAD experiment collected unprecedent neutrino data samples, matching both the large statistics of massive calorimeters and the reconstruction quality of bubble chambers. This paper describes the determination of the weak mixing angle which is ongoing in NOMAD, with a target precision of $\sim 1%$. In addition, measurements of the ν_{μ} quasi-elastic cross-section and of neutrino Charged Current differential cross-section on carbon are presented.
\\ (http://arXiv.org/abs/hep-ex/0411032 , 27kb)

Title: Status and Perspectives of Neutrino Physics
Authors: Alessandro Bettini
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I will first give a brief but comprehensive review of the status of our knowledge in neutrino physics. With reference to a not too far future I will then discuss the perspectives

that appear to me to be most important and promising.
\\ (http://arXiv.org/abs/hep-ex/0411015 , 550kb)

Title: Implications of Confirmation of the LSND anti-nu_mu -> anti-nu_e Oscillation Signal
Authors: H. Ray
Comments: 3 pages. Proceedings for talk presented at the 6th International Workshop of Neutrino Factories and Superbemans (NuFact04).
Proceedings will be published as a supplement to Nuclear Physics B
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Neutrino oscillations have been observed in solar and atmospheric neutrinos, and in the LSND accelerator experiment. The Standard Model cannot accommodate all three positive results. The solar and atmospheric results have been confirmed. An oscillation signal seen by MiniBooNE will validate the oscillation signal seen by LSND. The question then becomes one of refining the Standard Model to allow for these three results. Four theories which can accommodate all three oscillation observations are the existence of sterile neutrinos, CP violation, the existence of variab! le mass neutrinos, and small Lorentz violations. The Spallation Neutron Source (SNS), located at Oak Ridge Laboratories, Oak Ridge, Tennessee, will provide an ideal site to test these hypotheses. The SNS, due to turn on in 2008, will supply a high intensity neutrino source of known flux and energy spectrum. This source permits experiments to probe the high delta-m^2 region for measurements, where a positive signal from MiniBooNE would lie.
\\ (http://arXiv.org/abs/hep-ex/0411023 , 5kb)

Title: Neutrino Physics (theory)
Authors: Paul Langacker
Comments: 13 pages, 6 figures, invited plenary talk at ICHEP2004
Report-no: UPR-1098T
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Nonzero neutrino masses are the first definitive need to extend the standard model. After reviewing the basic framework, I describe the status of some of the major issues, including tests of the basic framework of neutrino masses and mixings; the question of Majorana vs. Dirac; the spectrum, mixings, and number of neutrinos; models, with special emphasis on constraints from typical superstring constructions (which are not consistent with popular bottom-up assumptions); and other implications.
\\ (http://arXiv.org/abs/hep-ph/0411116 , 42kb)