

References

- [1] J. C. Pati and A. Salam, *Is baryon number conserved?*, *Phys. Rev. Lett.* **31** (1973) 661–664.
- [2] P. Nath and P. F. Perez, *Proton stability in grand unified theories, in strings, and in branes*, *Phys. Rept.* **441** (2007) 191–317 [[hep-ph/0601023](#)].
- [3] **Super-Kamiokande** Collaboration, K. Kobayashi *et al.*, *Search for nucleon decay via modes favored by supersymmetric grand unification models in super-kamiokande-i*, *Phys. Rev.* **D72** (2005) 052007 [[hep-ex/0502026](#)].
- [4] J. Davis, Raymond, D. S. Harmer and K. C. Hoffman, *Search for neutrinos from the sun*, *Phys. Rev. Lett.* **20** (1968) 1205–1209.
- [5] **KAMIOKANDE-II** Collaboration, K. S. Hirata *et al.*, *Observation of b-8 solar neutrinos in the kamiokande-ii detector*, *Phys. Rev. Lett.* **63** (1989) 16.
- [6] **GALLEX** Collaboration, P. Anselmann *et al.*, *Solar neutrinos observed by gallex at gran sasso.*, *Phys. Lett.* **B285** (1992) 376–389.
- [7] D. N. Abdurashitov *et al.*, *Results from sage*, *Phys. Lett.* **B328** (1994) 234–248.
- [8] **Super-Kamiokande** Collaboration, M. B. Smy, *Solar neutrino precision measurements using all 1496 days of super-kamiokande-i data*, *Nucl. Phys. Proc. Suppl.* **118** (2003) 25–32 [[hep-ex/0208004](#)].
- [9] **SNO** Collaboration, B. Aharmim *et al.*, *Electron energy spectra, fluxes, and day-night asymmetries of b-8 solar neutrinos from the 391-day salt phase sno data set*, *Phys. Rev.* **C72** (2005) 055502 [[nucl-ex/0502021](#)].
- [10] **GNO** Collaboration, M. Altmann *et al.*, *Complete results for five years of gno solar neutrino observations*, *Phys. Lett.* **B616** (2005) 174–190 [[hep-ex/0504037](#)].
- [11] **KAMIOKANDE-II** Collaboration, K. Hirata *et al.*, *Observation of a neutrino burst from the supernova sn1987a*, *Phys. Rev. Lett.* **58** (1987) 1490–1493.
- [12] R. M. Bionta *et al.*, *Observation of a neutrino burst in coincidence with supernova sn1987a in the large magellanic cloud*, *Phys. Rev. Lett.* **58** (1987) 1494.
- [13] E. N. Alekseeva, L. N. Alekseeva, I. V. Krivosheina and V. I. Volchenko, *Detection of the neutrino signal from sn1987a in the lmc using the inr baksan underground scintillation telescope*, *Phys. Lett.* **B205** (1988) 209–214.
- [14] **The NUSEX** Collaboration, M. Aglietta *et al.*, *Experimental study of atmospheric neutrino flux in the nusex experiment*, *Europhys. Lett.* **8** (1989) 611–614.
- [15] **KAMIOKANDE-II** Collaboration, K. S. Hirata *et al.*, *Experimental study of the atmospheric neutrino flux*, *Phys. Lett.* **B205** (1988) 416.
- [16] **Kamiokande-II** Collaboration, K. S. Hirata *et al.*, *Observation of a small atmospheric ν_μ/ν_e ratio in kamiokande*, *Phys. Lett.* **B280** (1992) 146–152.
- [17] R. Becker-Szendy *et al.*, *The electron-neutrino and muon-neutrino content of the atmospheric flux*, *Phys. Rev.* **D46** (1992) 3720–3724.
- [18] **Frejus**. Collaboration, K. Daum *et al.*, *Determination of the atmospheric neutrino spectra with the frejus detector*, *Z. Phys.* **C66** (1995) 417–428.
- [19] **Soudan-2** Collaboration, W. W. M. Allison *et al.*, *The atmospheric neutrino flavor ratio from a 3.9 fiducial kiloton-year exposure of soudan 2*, *Phys. Lett.* **B449** (1999) 137–144 [[hep-ex/9901024](#)].
- [20] **Super-Kamiokande** Collaboration, Y. Ashie *et al.*, *A measurement of atmospheric neutrino oscillation parameters by super-kamiokande i*, *Phys. Rev.* **D71** (2005) 112005 [[hep-ex/0501064](#)].
- [21] **Super-Kamiokande** Collaboration, Y. Fukuda *et al.*, *Evidence for oscillation of atmospheric neutrinos*, *Phys. Rev. Lett.* **81** (1998) 1562–1567 [[hep-ex/9807003](#)].
- [22] T. Kajita, *Discovery of neutrino oscillations*, *Rept. Prog. Phys.* **69** (2006) 1607–1635.
- [23] T. Tabarelli de Fatis, *Prospects of measuring $\sin^2(2\theta(13))$ and the sign of $\delta(m^{*2})$ with a massive magnetized detector for atmospheric neutrinos*, *Eur. Phys. J.* **C24** (2002) 43–50 [[hep-ph/0202232](#)].
- [24] T. Araki *et al.*, *Experimental investigation of geologically produced antineutrinos with kamland*, *Nature* **436** (2005) 499–503.
- [25] **Borexino** Collaboration, H. O. Back *et al.*, *Phenylxylylethane (pXe): A high-density, high-flashpoint organic liquid scintillator for applications in low-energy particle and astrophysics experiments*, [physics/0408032](#).
- [26] **KamLAND** Collaboration, T. Araki *et al.*, *Measurement of neutrino oscillation with kamland: Evidence of spectral distortion*, *Phys. Rev. Lett.* **94** (2005) 081801 [[hep-ex/0406035](#)].
- [27] **ICARUS** Collaboration, S. Amerio *et al.*, *Design, construction and tests of the icarus t600*

- detector, *Nucl. Instrum. Meth.* **A527** (2004) 329–410.
- [28] ICARUS Collaboration, F. Arneodo *et al.*, *The icarus experiment, a second-generation proton decay experiment and neutrino observatory at the gran sasso laboratory*, [hep-ex/0103008](#).
- [29] A. de Bellefon *et al.*, *Memphys: A large scale water cerenkov detector at frejus*, [hep-ex/0607026](#).
- [30] L. Oberauer, F. von Feilitzsch and W. Potzel, *A large liquid scintillator detector for low-energy neutrino astronomy*, *Nucl. Phys. Proc. Suppl.* **138** (2005) 108–111.
- [31] T. Marrodán Undagoitia *et al.*, *Low energy neutrino astronomy with the large liquid scintillator detector lena*, *Prog. Part. Nucl. Phys.* **57** (2006) 283 [[hep-ph/0605229](#)].
- [32] A. Rubbia, *Experiments for cp-violation: A giant liquid argon scintillation, cerenkov and charge imaging experiment?*, [hep-ph/0402110](#).
- [33] A. Rubbia, *Review of massive underground detectors*, [hep-ph/0407297](#).
- [34] A. Ereditato and A. Rubbia, *Ideas for future liquid argon detectors*, *Nucl. Phys. Proc. Suppl.* **139** (2005) 301–310 [[hep-ph/0409143](#)].
- [35] A. Ereditato and A. Rubbia, *The liquid argon tpc: A powerful detector for future neutrino experiments and proton decay searches*, *Nucl. Phys. Proc. Suppl.* **154** (2006) 163–178 [[hep-ph/0509022](#)].
- [36] A. Ereditato and A. Rubbia, *Conceptual design of a scalable multi-kton superconducting magnetized liquid argon tpc*, *Nucl. Phys. Proc. Suppl.* **155** (2006) 233–236 [[hep-ph/0510131](#)].
- [37] J. E. Campagne, M. Maltoni, M. Mezzetto and T. Schwetz, *Physics potential of the cern-memphys neutrino oscillation project*, *JHEP* **04** (2007) 003 [[hep-ph/0603172](#)].
- [38] C. Rubbia, A. Ferrari, Y. Kadi and V. Vlachoudis, *Beam cooling with ionisation losses*, [hep-ph/0602032](#).
- [39] K. S. Hirata *et al.*, *Observation in the kamiokande-ii detector of the neutrino burst from supernova sn1987a*, *Phys. Rev.* **D38** (1988) 448–458.
- [40] J. F. Beacom and M. R. Vagins, *Gadzoos! antineutrino spectroscopy with large water cherenkov detectors*, *Phys. Rev. Lett.* **93** (2004) 171101 [[hep-ph/0309300](#)].
- [41] I. Dorsner and P. Fileviez Perez, *How long could we live?*, *Phys. Lett.* **B625** (2005) 88–95 [[hep-ph/0410198](#)].
- [42] H. Georgi and S. L. Glashow, *Unity of all elementary particle forces*, *Phys. Rev. Lett.* **32** (1974) 438–441.
- [43] I. Dorsner and P. Fileviez Perez, *Unification without supersymmetry: Neutrino mass, proton decay and light leptoquarks*, *Nucl. Phys.* **B723** (2005) 53–76 [[hep-ph/0504276](#)].
- [44] I. Dorsner, P. F. Perez and R. Gonzalez Felipe, *Phenomenological and cosmological aspects of a minimal gut scenario*, *Nucl. Phys.* **B747** (2006) 312–327 [[hep-ph/0512068](#)].
- [45] D.-G. Lee, R. N. Mohapatra, M. K. Parida and M. Rani, *Predictions for proton lifetime in minimal nonsupersymmetric so(10) models: An update*, *Phys. Rev.* **D51** (1995) 229–235 [[hep-ph/9404238](#)].
- [46] H. Murayama and A. Pierce, *Not even decoupling can save minimal supersymmetric su(5)*, *Phys. Rev.* **D65** (2002) 055009 [[hep-ph/0108104](#)].
- [47] B. Bajc, P. Fileviez Perez and G. Senjanovic, *Proton decay in minimal supersymmetric su(5)*, *Phys. Rev.* **D66** (2002) 075005 [[hep-ph/0204311](#)].
- [48] B. Bajc, P. Fileviez Perez and G. Senjanovic, *Minimal supersymmetric su(5) theory and proton decay: Where do we stand?*, [hep-ph/0210374](#).
- [49] D. Emmanuel-Costa and S. Wiesenfeldt, *Proton decay in a consistent supersymmetric su(5) gut model*, *Nucl. Phys.* **B661** (2003) 62–82 [[hep-ph/0302272](#)].
- [50] K. S. Babu and R. N. Mohapatra, *Predictive neutrino spectrum in minimal so(10) grand unification*, *Phys. Rev. Lett.* **70** (1993) 2845–2848 [[hep-ph/9209215](#)].
- [51] C. S. Aulakh, B. Bajc, A. Melfo, G. Senjanovic and F. Vissani, *The minimal supersymmetric grand unified theory*, *Phys. Lett.* **B588** (2004) 196–202 [[hep-ph/0306242](#)].
- [52] T. Fukuyama, A. Ilakovac, T. Kikuchi, S. Meljanac and N. Okada, *Detailed analysis of proton decay rate in the minimal supersymmetric so(10) model*, *JHEP* **09** (2004) 052 [[hep-ph/0406068](#)].
- [53] H. S. Goh, R. N. Mohapatra, S. Nasri and S.-P. Ng, *Proton decay in a minimal susy so(10) model for neutrino mixings*, *Phys. Lett.* **B587** (2004) 105–116 [[hep-ph/0311330](#)].
- [54] T. Friedmann and E. Witten, *Unification scale, proton decay, and manifolds of g(2) holonomy*, *Adv. Theor. Math. Phys.* **7** (2003) 577–617 [[hep-th/0211269](#)].
- [55] B. Bajc and G. Senjanovic, *Seesaw at lhc*, [hep-ph/0612029](#).
- [56] P. Fileviez Perez, *A minimal renormalizable grand unified theory*, [hep-ph/0702287](#).

- [57] A. Bueno *et al.*, *Nucleon decay searches with large liquid argon tpc detectors at shallow depths: Atmospheric neutrinos and cosmogenic backgrounds*, *JHEP* **04** (2007) [hep-ph/0701101].
- [58] **GEANT4** Collaboration, S. Agostinelli *et al.*, *Geant4: A simulation toolkit*, *Nucl. Instrum. Meth.* **A506** (2003) 250–303.
- [59] C. K. Jung, *Feasibility of a next generation underground water cherenkov detector: Uno*, *AIP Conf. Proc.* **533** (2000) 29–34 [hep-ex/0005046].
- [60] T. Nakaya, *Next-generation nucleon decay experiments*, *Nucl. Phys. Proc. Suppl.* **138** (2005) 376–382.
- [61] T. Marrodán Undagoitia *et al.*, *Search for the proton decay $p \rightarrow k^+ \text{ anti-}\nu$ in the large liquid scintillator low energy neutrino astronomy detector lena*, *Phys. Rev.* **D72** (2005) 075014 [hep-ph/0511230].
- [62] A. S. Dighe and A. Y. Smirnov, *Identifying the neutrino mass spectrum from the neutrino burst from a supernova*, *Phys. Rev.* **D62** (2000) 033007 [hep-ph/9907423].
- [63] M. Aglietta *et al.*, *Comments on the two events observed in neutrino detectors during the supernova 1987a outburst*, *Europhys. Lett.* **3** (1987) 1321–1324.
- [64] L. Cadonati, F. P. Calaprice and M. C. Chen, *Supernova neutrino detection in borexino*, *Astropart. Phys.* **16** (2002) 361–372 [hep-ph/0012082].
- [65] J. F. Beacom, W. M. Farr and P. Vogel, *Detection of supernova neutrinos by neutrino proton elastic scattering*, *Phys. Rev.* **D66** (2002) 033001 [hep-ph/0205220].
- [66] M. Kachelriess *et al.*, *Exploiting the neutronization burst of a galactic supernova*, *Phys. Rev.* **D71** (2005) 063003 [astro-ph/0412082].
- [67] I. Gil-Botella and A. Rubbia, *Decoupling supernova and neutrino oscillation physics with lar tpc detectors*, *JCAP* **0408** (2004) 001 [hep-ph/0404151].
- [68] I. Gil-Botella and A. Rubbia, *Oscillation effects on supernova neutrino rates and spectra and detection of the shock breakout in a liquid argon tpc*, *JCAP* **0310** (2003) 009 [hep-ph/0307244].
- [69] R. C. Schirato, G. M. Fuller, . U. . LANL), UCSD and LANL), *Connection between supernova shocks, flavor transformation, and the neutrino signal*, astro-ph/0205390.
- [70] G. L. Fogli, E. Lisi, D. Montanino and A. Mirizzi, *Analysis of energy- and time-dependence of supernova shock effects on neutrino crossing probabilities*, *Phys. Rev.* **D68** (2003) 033005 [hep-ph/0304056].
- [71] G. L. Fogli, E. Lisi, A. Mirizzi and D. Montanino, *Probing supernova shock waves and neutrino flavor transitions in next-generation water-cherenkov detectors*, *JCAP* **0504** (2005) 002 [hep-ph/0412046].
- [72] R. Tomas *et al.*, *Neutrino signatures of supernova shock and reverse shock propagation*, *JCAP* **0409** (2004) 015 [astro-ph/0407132].
- [73] V. Barger, P. Huber and D. Marfatia, *Supernova neutrinos can tell us the neutrino mass hierarchy independently of flux models*, *Phys. Lett.* **B617** (2005) 167–173 [hep-ph/0501184].
- [74] G. L. Fogli, E. Lisi, A. Mirizzi and D. Montanino, *Damping of supernova neutrino transitions in stochastic shock-wave density profiles*, *JCAP* **0606** (2006) 012 [hep-ph/0603033].
- [75] A. Friedland and A. Gruzinov, *Neutrino signatures of supernova turbulence*, astro-ph/0607244.
- [76] C. Lunardini and A. Y. Smirnov, *Supernova neutrinos: Earth matter effects and neutrino mass spectrum*, *Nucl. Phys.* **B616** (2001) 307–348 [hep-ph/0106149].
- [77] A. S. Dighe, M. T. Keil and G. G. Raffelt, *Identifying earth matter effects on supernova neutrinos at a single detector*, *JCAP* **0306** (2003) 006 [hep-ph/0304150].
- [78] A. S. Dighe, M. T. Keil and G. G. Raffelt, *Detecting the neutrino mass hierarchy with a supernova at icecube*, *JCAP* **0306** (2003) 005 [hep-ph/0303210].
- [79] A. Mirizzi, G. G. Raffelt and P. D. Serpico, *Earth matter effects in supernova neutrinos: Optimal detector locations*, *JCAP* **0605** (2006) 012 [astro-ph/0604300].
- [80] C. Lunardini and A. Y. Smirnov, *Probing the neutrino mass hierarchy and the 13-mixing with supernovae*, *JCAP* **0306** (2003) 009 [hep-ph/0302033].
- [81] H. Duan, G. M. Fuller, J. Carlson and Y.-Z. Qian, *Simulation of coherent non-linear neutrino flavor transformation in the supernova environment. i: Correlated neutrino trajectories*, *Phys. Rev.* **D74** (2006) 105014 [astro-ph/0606616].
- [82] S. Hannestad, G. G. Raffelt, G. Sigl and Y. Y. Y. Wong, *Self-induced conversion in dense neutrino gases: Pendulum in flavour space*, *Phys. Rev.* **D74** (2006) 105010 [astro-ph/0608695].
- [83] R. Tomas, D. Semikoz, G. G. Raffelt, M. Kachelriess and A. S. Dighe, *Supernova pointing with low- and high-energy neutrino detectors*, *Phys. Rev.* **D68** (2003) 093013 [hep-ph/0307050].

- [84] P. Antonioli *et al.*, *Snews: The supernova early warning system*, *New J. Phys.* **6** (2004) 114 [[astro-ph/0406214](#)].
- [85] A. Odrzywolek, M. Misiasek and M. Kutschera, *Detection possibility of the pair-annihilation neutrinos from the neutrino-cooled pre-supernova star*, *Astropart. Phys.* **21** (2004) 303–313 [[astro-ph/0311012](#)].
- [86] S. Ando, J. F. Beacom and H. Yuksel, *Detection of neutrinos from supernovae in nearby galaxies*, *Phys. Rev. Lett.* **95** (2005) 171101 [[astro-ph/0503321](#)].
- [87] M. Fukugita and M. Kawasaki, *Constraints on the star formation rate from supernova relic neutrino observations*, *Mon. Not. Roy. Astron. Soc.* **340** (2003) L7 [[astro-ph/0204376](#)].
- [88] S. Ando, *Cosmic star formation history and the future observation of supernova relic neutrinos*, *Astrophys. J.* **607** (2004) 20–31 [[astro-ph/0401531](#)].
- [89] S. Ando, *Decaying neutrinos and implications from the supernova relic neutrino observation*, *Phys. Lett.* **B570** (2003) 11 [[hep-ph/0307169](#)].
- [90] G. L. Fogli, E. Lisi, A. Mirizzi and D. Montanino, *Three-generation flavor transitions and decays of supernova relic neutrinos*, *Phys. Rev.* **D70** (2004) 013001 [[hep-ph/0401227](#)].
- [91] **Super-Kamiokande** Collaboration, M. Malek *et al.*, *Search for supernova relic neutrinos at super-kamiokande*, *Phys. Rev. Lett.* **90** (2003) 061101 [[hep-ex/0209028](#)].
- [92] L. E. Strigari, J. F. Beacom, T. P. Walker and P. Zhang, *The concordance cosmic star formation rate: Implications from and for the supernova neutrino and gamma ray backgrounds*, *JCAP* **0504** (2005) 017 [[astro-ph/0502150](#)].
- [93] A. M. Hopkins and J. F. Beacom, *On the normalisation of the cosmic star formation history*, *Astrophys. J.* **651** (2006) 142 [[astro-ph/0601463](#)].
- [94] A. G. Cocco, A. Ereditato, G. Fiorillo, G. Mangano and V. Pettorino, *Supernova relic neutrinos in liquid argon detectors*, *JCAP* **0412** (2004) 002 [[hep-ph/0408031](#)].
- [95] M. Wurm *et al.*, *Detection potential for the diffuse supernova neutrino background in the large liquid-scintillator detector lena*, *Phys. Rev.* **D75** (2007) 023007 [[astro-ph/0701305](#)].
- [96] H. Yuksel, S. Ando and J. F. Beacom, *Direct measurement of supernova neutrino emission parameters with a gadolinium enhanced super-kamiokande detector*, *Phys. Rev.* **C74** (2006) 015803 [[astro-ph/0509297](#)].
- [97] T. Totani, K. Sato, H. E. Dalhed and J. R. Wilson, *Future detection of supernova neutrino burst and explosion mechanism*, *Astrophys. J.* **496** (1998) 216–225 [[astro-ph/9710203](#)].
- [98] T. A. Thompson, A. Burrows and P. A. Pinto, *Shock breakout in core-collapse supernovae and its neutrino signature*, *Astrophys. J.* **592** (2003) 434 [[astro-ph/0211194](#)].
- [99] M. T. Keil, G. G. Raffelt and H.-T. Janka, *Monte carlo study of supernova neutrino spectra formation*, *Astrophys. J.* **590** (2003) 971–991 [[astro-ph/0208035](#)].
- [100] **Borexino** Collaboration, G. Alimonti *et al.*, *Ultra-low background measurements in a large volume underground detector*, *Astropart. Phys.* **8** (1998) 141–157.
- [101] G. Alimonti *et al.*, *A large-scale low-background liquid scintillation detector: The counting test facility at gran sasso*, *Nucl. Instrum. Meth.* **A406** (1998) 411–426.
- [102] A. Ianni, D. Montanino and F. L. Villante, *How to observe b-8 solar neutrinos in liquid scintillator detectors*, *Phys. Lett.* **B627** (2005) 38–48 [[physics/0506171](#)].
- [103] M. C. Gonzalez-Garcia and Y. Nir, *Developments in neutrino physics*, *Rev. Mod. Phys.* **75** (2003) 345–402 [[hep-ph/0202058](#)].
- [104] **MACRO** Collaboration, M. Ambrosio *et al.*, *Matter effects in upward-going muons and sterile neutrino oscillations*, *Phys. Lett.* **B517** (2001) 59–66 [[hep-ex/0106049](#)].
- [105] **K2K** Collaboration, M. H. Ahn *et al.*, *Measurement of neutrino oscillation by the k2k experiment*, [hep-ex/0606032](#).
- [106] **MINOS** Collaboration, N. Tagg, *First minos results from the numi beam*, *ECONF* **C060409** (2006) 019 [[hep-ex/0605058](#)].
- [107] Y. Itow *et al.*, *The jhf-kamioka neutrino project*, [hep-ex/0106019](#).
- [108] **NOvA** Collaboration, D. S. Ayres *et al.*, *Nova proposal to build a 30-kiloton off-axis detector to study neutrino oscillations in the fermilab numi beamline*, [hep-ex/0503053](#).
- [109] P. Huber, M. Maltoni and T. Schwetz, *Resolving parameter degeneracies in long-baseline experiments by atmospheric neutrino data*, *Physical Review D* **71** (2005) 053006.
- [110] C. W. Kim and U. W. Lee, *Comment on the possible electron-neutrino excess in the super-kamiokande atmospheric neutrino experiment*, *Phys. Lett.* **B444** (1998) 204–207 [[hep-ph/9809491](#)].
- [111] O. L. G. Peres and A. Y. Smirnov, *Testing the solar neutrino conversion with atmospheric neutrinos*, *Phys. Lett.* **B456** (1999) 204–213 [[hep-ph/9902312](#)].
- [112] M. C. Gonzalez-Garcia and M. Maltoni, *Atmospheric neutrino oscillations and new physics*, *Phys. Rev.* **D70** (2004) 033010 [[hep-ph/0404085](#)].

- [113] Y. Fukuda *et. al.*, *The super-kamiokande detector*, *Nucl. Instrum. Meth.* **A501** (2003) 418–462.
- [114] K. A. Hochmuth *et. al.*, *Probing the earth’s interior with the lena detector*, *Earth Moon Planets* **99** (2006) 253–264 [[hep-ph/0610048](#)].
- [115] A. Bueno, R. Cid, S. Navas-Concha, D. Hooper and T. J. Weiler, *Indirect detection of dark matter wimps in a liquid argon tpc*, *JCAP* **0501** (2005) 001 [[hep-ph/0410206](#)].
- [116] S. T. Petcov and T. Schwetz, *Precision measurement of solar neutrino oscillation parameters by a long-baseline reactor neutrino experiment in europe*, *Phys. Lett.* **B642** (2006) 487–494 [[hep-ph/0607155](#)].
- [117] S. Choubey and S. T. Petcov, *Reactor anti-neutrino oscillations and gadolinium loaded super-kamiokande detector*, *Phys. Lett.* **B594** (2004) 333–346 [[hep-ph/0404103](#)].
- [118] M. Ishitsuka, T. Kajita, H. Minakata and H. Nunokawa, *Resolving neutrino mass hierarchy and cp degeneracy by two identical detectors with different baselines*, *Phys. Rev.* **D72** (2005) 033003 [[hep-ph/0504026](#)].
- [119] **OPERA** Collaboration, R. Acquafredda *et. al.*, *First events from the cngs neutrino beam detected in the opera experiment*, *New J. Phys.* **8** (2006) 303 [[hep-ex/0611023](#)].
- [120] A. Mereaglia and A. Rubbia, *Neutrino oscillation physics at an upgraded cngs with large next generation liquid argon tpc detectors*, *JHEP* **11** (2006) 032 [[hep-ph/0609106](#)].
- [121] M. Maltoni, T. Schwetz, M. A. Tortola and J. W. F. Valle, *Status of global fits to neutrino oscillations*, *New J. Phys.* **6** (2004) 122 [[hep-ph/0405172](#)].
- [122] F. Gerigk *et. al.*, *Conceptual design of the spl ii, a high-power superconducting h- linac at cern*, . CERN-2006-006.
- [123] **BENE Steering Group** Collaboration, A. Baldini *et. al.*, *Beams for european neutrino experiments (bene): Midterm scientific report*, .
- [124] **International Scoping Study** Collaboration, P. Dornan *et. al. in preparation* (2006).
- [125] M. G. Catanesi *et. al.*, *Proposal for hadron production measurements using the na49 detector for use in long-baseline and atmospheric neutrino flux calculations*, . CERN-SPSC-2001-017.
- [126] P. Zucchelli, *A novel concept for a anti- ν/e / ν/e neutrino factory: The beta beam*, *Phys. Lett.* **B532** (2002) 166–172.
- [127] J. Bernabeu, J. Burguet-Castell, C. Espinoza and M. Lindroos, *Monochromatic neutrino beams*, *JHEP* **12** (2005) 014 [[hep-ph/0505054](#)].
- [128] J. Sato, *Monoenergetic neutrino beam for long baseline experiments*, *Phys. Rev. Lett.* **95** (2005) 131804 [[hep-ph/0503144](#)].
- [129] J. Burguet-Castell, M. B. Gavela, J. J. Gomez-Cadenas, P. Hernandez and O. Mena, *On the measurement of leptonic cp violation*, *Nucl. Phys.* **B608** (2001) 301–318 [[hep-ph/0103258](#)].
- [130] H. Minakata and H. Nunokawa, *Exploring neutrino mixing with low energy superbeams*, *JHEP* **10** (2001) 001 [[hep-ph/0108085](#)].
- [131] G. L. Fogli and E. Lisi, *Tests of three-flavor mixing in long-baseline neutrino oscillation experiments*, *Phys. Rev.* **D54** (1996) 3667–3670 [[hep-ph/9604415](#)].
- [132] A. Badertscher, M. Laffranchi, A. Mereaglia, A. Muller and A. Rubbia, *First results from a liquid argon time projection chamber in a magnetic field*, *Nucl. Instrum. Meth.* **A555** (2005) 294–309 [[physics/0505151](#)].
- [133] A. Bueno, M. Campanelli and A. Rubbia, *Physics potential at a neutrino factory: Can we benefit from more than just detecting muons?*, *Nucl. Phys.* **B589** (2000) 577–608 [[hep-ph/0005007](#)].
- [134] A. Bueno, M. Campanelli, S. Navas-Concha and A. Rubbia, *On the energy and baseline optimization to study effects related to the delta-phase (cp -/ t -violation) in neutrino oscillations at a neutrino factory*, *Nucl. Phys.* **B631** (2002) 239–284 [[hep-ph/0112297](#)].