Useful References for the Block Course *"Neutrino physics crossing borders - a tale of theory, experiments, colliders, and cosmology"*

by Alexander Merle

Note:
These are example references which I personally have used or would recommend. This list is by no means meant to be exhaustive or exclusive, and many other useful references can be found. However, it at least gives a starting point in case you want to go into more details with any of the topics treated. If you have got any questions, please do not hesitate to contact me.

Lecture 1: *Introduction to neutrinos*

[1] N. Schmitz: *Neutrinophysik* (textbook in German), Teubner, Stuttgart, Germany, 1997.

[2] M. Fukugita and T. Yanagida: *Physics of neutrinos and applications to astrophysics* (textbook), Springer, Berlin, Germany, 2003.

[3] C. Giunti and C. W. Kim: *Fundamentals of Neutrino Physics and Astrophysics* (textbook), Oxford University Press, Oxford, UK, 2007.

Lecture 2: *Neutrino phenomenology*

[4] V. Barger, D. Marfatia and K. Whisnant: *Progress in the physics of massive neutrinos*, Int. J. Mod. Phys. E **12** (2003) 569 [hep-ph/0308123].

[5] A. Strumia and F. Vissani, *Neutrino masses and mixings and...*, hep-ph/0606054.

Lecture 3: *Neutrinoless double β-decay*

[6] S. M. Bilenky and S. T. Petcov, *Massive Neutrinos and Neutrino Oscillations* (in particular Appendix B), Rev. Mod. Phys. **59** (1987) 671 [Errata-ibid. **61** (1989) 169, **60** (1988) 575].

[7] W. Rodejohann, *Neutrino-less Double Beta Decay and Particle Physics*, Int. J. Mod. Phys. E **20** (2011) 1833 [arXiv:1106.1334 [hep-ph]].

[8] M. Lindner, A. Merle and W. Rodejohann, *Improved limit on θ_{13} and implications for neutrino masses in neutrino-less double beta decay and cosmology*, Phys. Rev. D **73** (2006) 053005 [hep-ph/0512143].

[9] J. Schechter and J. W. F. Valle, *Neutrinoless Double beta Decay in $SU(2)\times U(1)$ Theories*, Phys. Rev. D **25** (1982) 2951.

[10] M. Dürr, M. Lindner and A. Merle, *On the Quantitative Impact of the Schechter-Valle Theorem*, JHEP **1106** (2011) 091 [arXiv:1105.0901 [hep-ph]].

Lecture 4: *Theory of neutrino masses*

[11] R. N. Mohapatra *et al.*, *Theory of neutrinos: A White paper*, Rept. Prog. Phys. **70** (2007) 1757 [hep-ph/0510213].

[12] R. N. Mohapatra, *ICTP lectures on theoretical aspects of neutrino masses and mixings*, hep-ph/0211252.

[13] E. Ma, *Neutrino Mass: Mechanisms and Models* (plus references therein), arXiv:0905.0221 [hep-ph].

[14] E. Ma, *Verifiable radiative seesaw mechanism of neutrino mass and dark matter*, Phys. Rev. D **73** (2006) 077301 [hep-ph/0601225].

Lecture 5: *Theory of lepton flavour*

[15] S. F. King, A. Merle, S. Morisi, Y. Shimizu and M. Tanimoto, *Neutrino Mass and Mixing: from Theory to Experiment*, New J. Phys. **16** (2014) 045018 [arXiv:1402.4271 [hep-ph]].

[16] S. F. King and C. Luhn, *Neutrino Mass and Mixing with Discrete Symmetry*, Rept. Prog. Phys. **76** (2013) 056201 [arXiv:1301.1340 [hep-ph]].

[17] H. Ishimori, T. Kobayashi, H. Ohki, H. Okada, Y. Shimizu and M. Tanimoto, *An introduction to non-Abelian discrete symmetries for particle physicists*, Lect. Notes Phys. **858** (2012) 1.

[18] S. F. King, A. Merle and A. J. Stuart, *The Power of Neutrino Mass Sum Rules for Neutrinoless Double Beta Decay Experiments*, JHEP **1312** (2013) 005 [arXiv:1307.2901 [hep-ph]].

Lecture 6: *Sterile neutrinos*

[19] A. Palazzo, *Phenomenology of light sterile neutrinos: a brief review*, Mod. Phys. Lett. A **28** (2013) 1330004 [arXiv:1302.1102 [hep-ph]].

[20] M. Drewes, *The Phenomenology of Right Handed Neutrinos*, Int. J. Mod. Phys. E **22** (2013) 1330019 [arXiv:1303.6912 [hep-ph]].

[21] Y. Y. Y. Wong, *Neutrino mass in cosmology: status and prospects*, Ann. Rev. Nucl. Part. Sci. **61** (2011) 69 [arXiv:1111.1436 [astro-ph.CO]].

[22] A. Merle, *keV Neutrino Model Building*, Int. J. Mod. Phys. D **22** (2013) 1330020 [arXiv:1302.2625 [hep-ph]].