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Neutrino properties from the laboratory and the cosmos

Thursday 3 April 2025 11:00 (30 minutes)

This talk reviews the present knowledge about neutrino properties, focusing on the determination of neutrino masses and PMNS mixing angles. I will review the implications of global data on neutrino oscillations and discuss the results of latest global fits, and I comment on expected near-term developements. For the determination of the absolute neutrino mass, complementary inforamtion is needed. In particular, recent results from cosmology lead to stringent upper limits on the sum of neutrino masses which start to be in slight tension with the lower bound implied by oscillation data. I will review the present status of this emerging tension and possible near future scenarios in light of upcoming data from DESI and EUKLID. A corroborated neutrino tension may be a sign of new physics in the cosmological model and/or in neutrino physics.

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Session Classification: Invited Overview Talks / Hauptvorträge