University of Zurich[UZH]

Faculty of Science

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SCHRÖDINGER

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SERIES

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Neutrino Revolution and Quest for the Origin of the Matter Dominated Universe

The 1998 discovery of neutrino oscillation by Super-Kamiokande brought a "revolution" in particle physics, ensuing remarkable advancements in our understanding of the neutrino oscillation phenomena.

However, our study on neutrinos has not been completed yet. For example, matter-antimatter asymmetry is one of the most outstanding mysteries of the universe that provides a necessary condition to our own existence, and it is generally agreed that experimental observation of "Charge-Parity" Violation (CPV) in neutrinos could provide us with a critical clue to this profound mystery. Recent T2K data show an indication of CPV, but establishing unequivocal results on leptonic CPV would require a next generation experiment such as DUNE in US.

In this talk , I will describe recent T2K results in some detail, and present the current landscape of the field in the quest of leptonic CPV and future prospects.

A new series of special physics colloquia in honor of Erwin Schrödinger, who was a professor at UZH from 1921 – 1927.
Lectures are intended for a broad audience from the Faculty of Science, aiming at experts and non-experts.