Contribution ID: **17** Type: **not specified**

Neutrino mass sum rules from modular A_4 symmetry

Tuesday 1 July 2025 14:30 (20 minutes)

In this talk, I will discuss a type-ii seesaw using the modular A_4 flavour symmetry. We propose a simple and minimalistic model that restricts the neutrino oscillation parameter space and, most importantly, introduces a sum rule in the physical neutrino masses. When combined with the mass squared differences observed in neutrino oscillations, this sum rule determines the absolute neutrino mass
scale. This has significant implications for cosmology, neutrinoless double beta decay experiments and direct neutrino mass measurements. In particular, the model predicts $\Sigma_i m_i \approx 0.1$ eV for both normal and inverted ordering, and thus can be fully probed by the current generation of cosmological probes in the upcoming years.

Author: KUMAR, Ranjeet (Department of Physics, Indian Institute of Science Education and Research - Bhopal)

Presenter: KUMAR, Ranjeet (Department of Physics, Indian Institute of Science Education and Research - Bhopal)

Session Classification: Parallel session I