

PMNS and the number of additional neutrino flavors

Tuesday, August 2, 2022 3:30 PM (30 minutes)

In accordance with the WG subject, we are concerned with the fundamental question of the number of neutrino species existing in nature. We report on a theoretical description of the mixing space based on singular values, contractions, and dilation procedures. With a bird's eye perspective, it provides an independent way of doing neutrino mixing analysis allowing for quantitative searches of extra neutrino states, establishing alternative limits on the "active-sterile" mixing, defining disjoint physical regions of the mixings among scenarios with a different number of sterile neutrinos. We give the pros and cons of the method. Concerning applications to phenomenological studies, going beyond PMNS, we try to understand the emergence of complete models with masses and mixings of heavy neutrino states and potential implications for collider and cosmological studies.

Attendance type

In-person presentation

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