



Contribution ID: 27

Type: **Oral contribution**

Constraints on non-standard neutrino interactions from Borexino extended data-set

The current experimental framework does not entirely exclude the possibility of weak-strength non-standard interactions (NSIs) between neutrinos and leptons. These interactions are classified into two types: Neutral Current (NC) and Charged Current (CC). NC NSIs affect neutrino propagation through matter, while CC NSIs are crucial for the production and detection of neutrinos. The Borexino experiment, located at the Laboratori Nazionali del Gran Sasso (LNGS), excels in detecting solar neutrinos through neutrino-electron elastic scattering in a ~ 280 -ton liquid scintillator target. This setup is particularly suited for identifying signatures of such non-standard interactions. In this poster, we present our latest constraints on NSIs with data from Borexino Phase-II and Phase-III. A more general analysis that includes all possible off-diagonal NSI terms is presented for the first time, providing a comprehensive exploration of the NSI parameter space associated with the flavors of the incoming and outgoing neutrinos.

Primary author: 孙, 光豹 (Wuhan University)

Presenter: 孙, 光豹 (Wuhan University)

Track Classification: WG5: Neutrinos Beyond PMNS