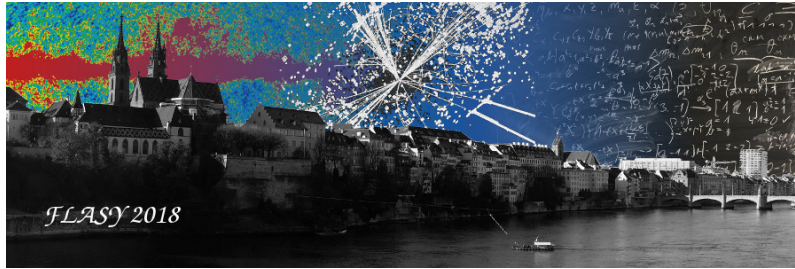


FLASY 2018: 7th Workshop on Flavour Symmetries and Consequences in Accelerators and Cosmology



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$\mu\tau$ reflection symmetry with a high scale texture-zero

Monday 2 July 2018 17:30 (30 minutes)

The $\mu\tau$ -reflection symmetry is a simple symmetry capable of predicting all the unknown CP phases of the lepton sector and the atmospheric angle but too simple to predict the absolute neutrino mass scale or the mass ordering.

By combining this symmetry with a discrete abelian symmetry in a nontrivial way we can additionally enforce a texture-zero for the heavy neutrino mass matrix which is transmitted to the inverse of the light neutrino mass matrix.

A highly predictive scenario emerges where the lightest neutrino mass is fixed to be in the few meV range for one solution with normal ordering (NO) and two solutions with inverted ordering (IO). Another NO solution allows the lightest mass to be in the region from few meV to tens of meV.

Moreover, the heavy neutrino sector is controlled solely by two free parameters.

The effective mass for neutrinoless double beta decay can be predicted and leptogenesis is successful for some solutions and some parameter regions.

Primary authors: Dr SANCHEZ-VEGA, Bruce (UFABC); NISHI, Celso (UFABC, Santo André, SP, BRAZIL); Mr SOUZA SILVA, Giovane (UFABC)

Presenter: NISHI, Celso (UFABC, Santo André, SP, BRAZIL)

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