Contribution ID: **155** Type: **Parallel Contributed Talk**

Leptogenesis from low energy CP violation in minimal left-right symmetric model

Tuesday, 23 February 2021 10:20 (20 minutes)

We perform a thermal unflavored leptogenesis analysis on minimal left-right symmetric models in which the left-right symmetry is identified as generalized parity or charged conjugation. When left-right symmetry is unbroken in lepton Yukawa sector, the neutrino Dirac coupling matrix is completely determined by neutrino masses and mixing angles, which allows CP violation needed to generate leptogenesis totally reside in the low energy sector.
Both type I and mixed type I + II neutrino mass generation mechanisms, together with two lepton asymmetry generation ones, are considered. After solving the Boltzmann equations numerically, we find that the low energy CP phases in the lepton mixing matrix can successfully produce the observed baryon asymmetry, and in some cases the Dirac CP phase can be the only source of CP violation. Finally we discuss the interplay among low energy CP phase measurements, leptogenesis and neutrinoless double beta decay, and show that the viable models for successful leptogenesis can be probed in next generation neutrinoless double-beta decay experiments.

Collaboration name

Primary author: Dr ZHANG, Xinyi (Institute of High Energy Physics, Chinese Academy of Sciences)

Co-authors: YU, Jiang-Hao (Institute of Theoretical Physics, Chinese Academy of Science); MA, Bo-Qiang (Peking University)

Presenter: Dr ZHANG, Xinyi (Institute of High Energy Physics, Chinese Academy of Sciences)

Session Classification: Non Standard Interactions

Track Classification: Neutrino Theory and Cosmology