Contribution ID: 28

Degenerate neutrinos and maximal mixing

Tuesday 18 August 2009 14:00 (1 minute)

Please give a brief summary of your poster

At the zeroth order, degenerate neutrino mass matrices can be considered as a sum of hierarchial and inverse hierarchial sub matrices. This holds true irrespective of the kind of mixing present in each sub matrix. Such decomposition is natural in Type I and Type III seesaw mechanisms. We show that in two generations, the degeneracy requirement can ensure maximal mixing even if the individual sub matrices contain only small mixing. In three generations, a straight forward extension of this 'degeneracy induced large mixing' can lead to maximally symmetric mixing matrix with three large mixing angles. A more suitable decomposition with two sub matrices is presented where this mechanism can be used to generate one large mixing while keeping another small. On the other hand, the proposed mechanism can have realizations in terms of hybrid seesaws i.e., where there is more than one seesaw mechanism at work. The left right symmetric model where both Type I and Type II are simultaneously present provides a natural setting for realization of the above mechanism.

Primary author: Dr MEHTA, POONAM (RAMAN RESEARCH INSTITUTE, Bangalore)

Co-authors: Prof. JOSHIPURA, ANJAN S (PHYSICAL RESEARCH INSTITUTE, Ahmedabad); Mr CHAKRABORTTY, JOYDEEP (HRI, Allahabad); Prof. VEMPATI, SUDHIR K (CHEP, IISc., Bangalore)

Presenter: Dr MEHTA, POONAM (RAMAN RESEARCH INSTITUTE, Bangalore)

Session Classification: Poster Session

Track Classification: Poster Session