

Collective neutrino oscillations

Thursday, 29 June 2017 11:25 (25 minutes)

Collective oscillations of neutrinos represent emergent nonlinear flavor evolution phenomena instigated by neutrino-neutrino interactions in astrophysical environments with sufficiently high neutrino densities. The symmetries of the problem in the full three flavor mixing scheme and in the exact many-body formulation by including the effects of CP violation and neutrino magnetic moment will be discussed. The connection between neutrino collective oscillations and the dynamics of core-collapse supernovae and the origin of chemical elements will be elucidated.

Presenter: BALANTEKIN, Akif Baha (U.of Wisconsin)

Session Classification: Session 8 (Chair: C. H. Hyun)