

## A dual-baseline asymmetry for neutrino oscillations

*Monday 26 August 2019 19:00 (2 hours)*

The proposed T2HKK experiment involves placing a neutrino detector in Korea in the path of the T2HK beam, to collect data at an additional baseline of 1100 km. This setup will allow the measurement of neutrino oscillation probabilities at two different baselines with the same beam. We define a dual-baseline asymmetry relevant for setups with two components with different baselines. We find that the asymmetry gets enhanced at specific energies corresponding to the oscillation minima of one baseline. Using analytic considerations we demonstrate the possibility of using this asymmetry to distinguish between the mass hierarchies and measure the CP phase with good precision at the T2HKK experiment. We also discuss the possibility of exploring new physics with this asymmetry.

### Working Group

WG1 : Neutrino Oscillation Physics

**Author:** Dr RAUT, Sushant (IBS CTPU, Daejeon, South Korea)

**Presenter:** Dr RAUT, Sushant (IBS CTPU, Daejeon, South Korea)

**Session Classification:** Poster session