

## **Seminarium Studium Doktoranckiego NCBJ**

**Thursday, 3 December, 9:00**

<https://www.gotomeet.me/NCBJmeetings/phd-seminar>

**Speaker:**

**Yashwanth Prabhu (Studium Doktoranckie NCBJ)**

**Title:**

**On the Determination of  $\delta_{CP}$  with Accelerator Neutrinos**

**Abstract:**

One of the most important open questions in particle physics is whether the CP symmetry is violated in the leptonic sector- more specifically in the neutrino sector. It is well known the CP symmetry is violated in the quark sector. Discovery of CP violation in the neutrino sector will have implications on the observed matter and antimatter asymmetry in the Universe. The leptonic CP violation arises through the phase  $\delta_{CP}$  which is a parameter in the neutrino mixing matrix. If  $\delta_{CP}$  takes a non-conserving value, it will result in CP violation.

In my thesis, I studied the effect of  $\delta_{CP}$  on neutrino and anti-neutrino oscillation probabilities and extended the same to the study of event rates at long baseline neutrino experiments. In this talk, I will discuss the results obtained from my analysis of accelerator neutrinos that travel 1,300 km before detection.