NTN Workshop on Neutrino Non-Standard Interactions



Contribution ID: 4

Type: not specified

Effective Field Theory for NSI in Elastic Neutrino -Nucleus Scattering

Thursday 30 May 2019 11:45 (45 minutes)

We formulate an Effective Field Theory (EFT) for Non Standard neutrino Interactions (NSI) in elastic scattering with light quarks, leptons, gluons and photons, including all possible operators of dimension 5, 6 and 7. We constrain the respective Wilson coefficient using the measurements by the COHERENT and CHARM collaborations. We also point out the constraining power of future elastic neutrino-nucleus scattering experiments. Finally, we explore the implications of the bounds for SMEFT operators above the electroweak breaking scale.

Authors: ZUPAN, Jure (University of Cincinnati); TAMMARO, Michele; ALTMANNSHOFER, Wolfgang (UC Santa Cruz)

Presenter: TAMMARO, Michele

Session Classification: Session 6