

High-energy constraints from low-energy neutrino non-standard interactions

Friday 17 April 2020 10:30 (30 minutes)

Many scenarios of new physics predict the existence of neutrino Non-Standard Interactions, new vector contact interactions between neutrinos and first generation fermions beyond the Standard Model. In this talk we will present model-independent constraints on the Standard Model Effective Field Theory at high energies from bounds on neutrino non-standard interactions derived at low energies. Our analysis explores a large set of new physics scenarios and includes full one-loop running effects below and above the electroweak scale. Our results show that neutrino non-standard interactions already push the scale of new physics beyond the TeV. We also conclude that bounds derived by other experimental probes, in particular by low-energy precision measurements and by charged lepton flavor violation searches, are generally more stringent.

Presenter: TEROL CALVO, Jorge (IFIC (CSIC-Univ València))