

Richard Ruiz: Light mesons from light heavy neutrinos at colliders

Tuesday 18 June 2024 14:15 (45 minutes)

In the context of the Phenomenological Type I Seesaw, we investigate the LHC's sensitivity to exclusive, mesonic decay modes of long-lived, light (Dirac and Majorana) heavy neutrinos N when they are produced in the decays of W bosons. We present a new framework that combines massless QCD to describe N 's production up to NLO in QCD via weak bosons with a low-energy effective field theory to describe N 's decays to mesons. We provide a prescription for fast, numerical determination of N 's partial and total widths for any mass and accounts for mesonic decay modes.