

Lepton Flavor Violation and Dilepton Tails at the LHC

Friday 24 September 2021 11:00 (25 minutes)

Charged Lepton Flavor Violation (LFV) is a very clean probe of New Physics since it is forbidden in the Standard Model (SM). The observation of neutrino oscillation implies nonzero LFV rates, which however are highly suppressed by the smallness of neutrino masses. This makes LFV an appealing target of experimental searches, as its observation would unambiguously point to New Physics.

In this talk, I will discuss the constraints on LFV effective operators that can be derived from LHC data. I will show that semileptonic operators can be constrained by existing searches of $pp \rightarrow \ell_i \ell_j$ (with $i \neq j$) at high- p_T . I will explore the complementarity of these constraints with the ones obtained from low-energy observables, by showing, in particular, that LHC data provides the most stringent limits on quark-flavor conserving operators. The relevance of these results for leptoquark models aiming to explain the B -physics anomalies will also be briefly discussed.

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Session Classification: Flavor

Track Classification: Flavor