

Precision tau physics: Challenge for Theory, on & off the lattice

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In the past half a dozen years or so, the tau lepton has become the central focus for many reasons. Foremost in this is the fact that there are strong experimental hints that the tau is intimately involved in strong indications of lepton universality violations (LUV). Moreover, it is no longer just one type of experiments but rather three different types are involved and in each case the deviations from the SM is over 3 sigma. Chances of survival of one of these therefore is rather high. Possible theoretical scenarios that may be relevant are extremely intriguing. Then there is BELLE-II data set on the horizon which should be able to move tau precision to an unprecedented level. And of course LHCb with more upcoming data due to RUN-3 and beyond will also be very potent. This should open many avenues for searching new phenomena esp BSM-CP violation. Furthermore, its mass around 1.8 GeV renders it readily amenable to precision studies on the lattice and can prove very useful for more precise tests of the SM and for search of new phenomena.

What is your topic?

Lepton universality and flavour violation

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