

CP violating lepton asymmetry from semi-leptonic B decays as a probe of new physics

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Summary

Abstract:

We investigate the effect of the dimuon CP asymmetry from the B decay modes, recently observed at 3.2 sigma deviation from the Standard Model (SM) by the D0 collaboration, in order to probe new physics. To obtain the large dimuon CP asymmetry, the dispersive and absorptive parts of mixing amplitudes. A large amount of flavor violation between the second and the third generation is generated due to the large neutrino atmospheric mixing angle and this flavor violation can be responsible for the large CP asymmetry in grand unified theories. We exhibit the GUT scenarios and the constraints from the other flavor violating processes. We also study the modification of the absorptive part of the mixing amplitude.

Presenter: Dr MIMURA, Yukihiro (National Taiwan University)

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