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Positivity bounds on Minimal Flavor Violation

Friday, 16 April 2021 16:00 (25 minutes)

Effective Field Theories are a very powerful mean to describe theories at energies well below a certain cutoff scale. However, not all points in the parameter space spanned by their coefficients allow for a UV completion that is both unitary and analytic, and various bounds have been derived in the literature. I will discuss to what extent are these bounds compatible with the Minimal Flavor Violation hypothesis in the Standard Model Effective Field Theory. The latter is the Effective Theory incorporating the effects of resonances whose mass is parametrically larger than the Electroweak Scale, where the Higgs phase transition happens. Since in this setting the coefficients of higher dimensional operators are expressed in terms of Yukawa matrices, I will show how this dependence reflects on the final parameter space the theory is allowed to span.

Presenter: GENDY, Emanuele

Session Classification: 4.16 afternoon