Contribution ID: **222** Type: **PhD forum talk + poster**

Positivity bounds on Minimal Flavor Violation

Monday, May 31, 2021 5:30 PM (6 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. These bounds attain particular phenomenological relevance when applied to the Standard Model Effective Field Theory. The latter is a framework to which any BSM model containing modes heavier than the EW scale, where the Higgs phase transition happen, can be reduced at sufficiently low energies. I will discuss to what extent are these constraints in the Standard Model Effective Field Theory compatible with the Minimal Flavor Violation hypothesis. 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.

arXiv number (if applicable)

2011.12855

Primary authors: GENDY ABD EL SAYED, Emanuele (DESY); BONNEFOY, Quentin (DESY); GROJEAN, Christophe (DESY (Hamburg) and Humboldt University (Berlin))

Presenter: GENDY ABD EL SAYED, Emanuele (DESY)

Session Classification: PhD Forum