

Flavor Symmetries in the Standard Model Effective Field Theory

Friday, 16 April 2021 23:00 (24 minutes)

Flavor symmetries play an essential role in the analysis of fermionic operators in the SMEFT by substantially reducing the number of independent parameters in the theory. Moreover, they provide an organizing principle for classifying the vast number of dimension-six operators involving fermions. Two particularly motivated cases are the $U(3)^5$ and the $U(2)^5$ flavor symmetry, which I will introduce with appropriate breaking patterns. I will present the operator classification according to these symmetries and analyze their utilization for the SMEFT. Furthermore, I will discuss the RG evolution of operators under the symmetries and their phenomenological implications for LHC searches.

Primary author: Mr WILSCH, Felix (University of Zurich)

Co-authors: Dr FAROUGHY, Darius (University of Zurich); Prof. ISIDORI, Gino (University of Zurich); Dr YAMAMOTO, Kei (Hiroshima University)

Presenter: Mr WILSCH, Felix (University of Zurich)

Session Classification: 4.16 night