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A Taste of the Flavour Problem - Is Symmetry the Missing Ingredient

Friday, 26 June 2020 10:10 (12 minutes)

In this talk I will present some generalities on the paradigm of flavour symmetries, and the benefits that it encompasses. Given the large multiplicity of scenarios in which this paradigm is included, I will focus on two specific works (in progress): approximate Yukawa symmetries in the context of 2HDMS; and subgroup-preserving points (stabilizers) in the context of discrete modular symmetries (Γ_N). The first scenario follows a bottom-up approach to BSM theories, leading to hitherto unstudied 2HDMS, which feature a very characteristic and predictive flavour structure. The second work is based on a top-down approach, since modular symmetries often play a role in string theories, allied to the fact that small N modular symmetries have been established as fruitful scenarios for both quark and lepton mixing. As such, a comprehensive study of symmetry breaking paths of the modular symmetries is of interest for model building.

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