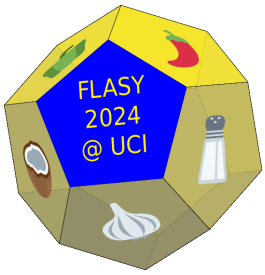

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Flavour in Finite SU(5) Grand Unified Theories

Wednesday 26 June 2024 15:15 (45 minutes)

We study four SU (5) supersymmetric models which exhibit S3 and/or ZN
symmetries, that are finite to two or all loops and their corresponding mass
matrices. Some of the models have viable mass textures, like the Nearest Neighbour
Interaction one. In particular, an all-loop finite model was identified, which
has a significant parameter reduction and could reproduce the observed quark
masses and mixing pattern. In this case the finiteness conditions determine the absolute value of the Yukawa couplings at the
unification scale, although not the Higgs vevs. For the two-loop finite models, a range of values
for the Yukawa couplings is also found. We include an analysis of the number
and position of the phases, not previously done in Finite Unified Theories,
which contributes towards the reduction of parameters.

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Session Classification: Flavor Symmetries