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Symmetric mass generation for staggered fermions

Friday, 2 August 2024 14:55 (20 minutes)

I will describe new strongly coupled phases of staggered fermions in which all states can be given mass without breaking any exact lattice symmetries.
Numerical results for Higgs-Yukawa and gauge theories will be shown.
A necessary condition for the existence of such phases is the cancellation
of a certain exact lattice 't Hooft anomaly. I will show that the minimal
anomaly free theory has a continuum limit with the global
symmetries and matter representations of the well known Pati-Salam GUT containing the Standard Model.

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