

DISCRETE 2014: Fourth Symposium on Prospects in the Physics of Discrete Symmetries



Contribution ID: 7

Type: **not specified**

Extra dimensions with flavor.

Tuesday, 2 December 2014 18:35 (30 minutes)

The use of discrete symmetries to explain fermion masses and mixings has been a popular and profitable tool in particle physics. Some of the most interesting features shown in both the quark and lepton sectors, specially with regards to their mixing patterns, strongly hint at the presence of some underlying “flavor” symmetry. On the other hand, the puzzling wide spread in the mass spectrum of fundamental particles, specially when neutrinos are included in the discussion, cannot so clearly nor directly be associated to a symmetry. Instead, several mechanisms have been concocted that, most of the time in collaboration with flavor symmetries, try to explain such observed richness. In this talk we will discuss how some simple and economical models with cyclic symmetry, that reproduce all mixing angles, when constructed in extra dimensions, can also lead to a reproduction of the fermion mass spectrum through the process of localization.

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Session Classification: Parallel 1: $g-2$ & discrete symmetries (T, C, P), flavour, accidental symmetries