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UNIVERSITÄT MAINZ



THEP Journal Club

Dec. 15, 2017 at 12:30 p.m.
Minkowski Raum, Staudinger Weg 7, 05-119

Pizza & Physics at Lunchtime

Note: Special Theorie Palavar

Gero von Gersdorff
Pontifícia Universidade Católica do Rio de Janeiro

Natural Fermion Hierarchies from Random Yukawa Couplings

The Standard Model of particle physics requires Yukawa matrices with eigenvalues that differ by orders of magnitude. We propose a novel way to explain this fact without any small or large parameters. The mechanism is based on the observation that products of matrices of random order one-numbers have hierarchical spectra. The same mechanism also accounts for the hierarchical structure of the quark mixing matrix.

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