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Dynamical Generation of Elementary Fermion Mass: First Lattice Evidence

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Using lattice simulations we give evidence of the existence of a non-perturbative mechanism for elementary particle mass generation in models with gauge fields, fermions and scalars, if an exact invariance forbids power divergent fermion masses and fermionic chiral symmetries broken at UV scale are maximally restored. We show that in the Nambu-Goldstone phase a fermion mass term, unrelated to the Yukawa operator, is dynamically generated.

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