

Scattering of Goldstone bosons in SU(2) with Nf=2 fundamental fermions

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We present the first lattice calculation of the scattering amplitude of Goldstone bosons in the singlet channel relevant to test the viability of a composite Higgs scenario beyond the Standard Model. In such a framework, the scattering of the underlying Goldstone bosons controls the properties of the Higgs boson. The Higgs boson properties are constrained by the Standard Model and experimentally measured by the CERN experiments and therefore provide stringent tests of models of new physics.

In this work we focus on a SU(2) gauge theory with 2 flavours of Dirac fermions in the fundamental representation, a minimal UV completion of a composite Higgs model. We calculate the scattering amplitude near threshold of two of two Goldstone bosons in the singlet channel. The first principle prediction sheds light on the viability of the model.

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