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Scattering lengths in SU(2) Gauge Theory with two Fundamental Fermions

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We investigate non perturbatively scattering properties of Goldstone Bosons in SU(2) gauge theory with two Wilson fermions in the fundamental representation. Such a theory can be used to build extensions of the Standard Model that unifies Technicolor and pseudo Goldstone composite Higgs models. The leading order contribution to the scattering amplitude of Goldstone bosons at low energy is given by the scattering lengths. In the context of technicolor extensions of the Standard Model the scattering lengths are constrained by WW scattering measurements.
We first describe our setup and in particular the expected chiral symmetry breaking pattern.
We then discuss how to compute them on a lattice and give preliminary results using finite size methods.

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