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Staggered chiral perturbation theory in the two-flavor case

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In the light pseudoscalar sector, I study rooted staggered chiral perturbation theory in the two-flavor case. The pion mass and decay constant are calculated through NLO for a partially-quenched theory. In the limit where the strange quark mass is large compared to the light quark masses and the taste splittings, I show that the SU(2) staggered chiral theory emerges from the SU(3) staggered chiral theory, as expected. Explicit relations between SU(2) and SU(3) low energy constants and taste-violating parameters are given. A brief summary of updated SU(2) chiral fits to the MILC lattice data is presented.

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talk

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