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Simulations of QCD with Staggered Quarks: Results and Issues

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I describe recent advances in simulating QCD using the staggered quark action. Current results from the MILC collaboration on the physics of light pseudoscalars (pion and kaon decay constants, V_{us}, quark masses, and low energy constants) are presented, as are results from the Fermilab/MILC collaboration on leptonic decay constants and semileptonic form factors of the B and D systems. In addition, I detail the progress that has recently been made in putting staggered QCD simulations on a firmer theoretical footing, in particular by understanding the so-called "rooting trick" and the corresponding chiral effective theory.