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Meson electromagnetic form factors from lattice QCD

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Lattice QCD can provide direct determination of the electromagnetic form factors of mesons as a prediction to be compared to upcoming experiments at Jefferson Lab. At the same time we can compare to expectations from perturbative QCD, which take a very simple form at high Q^2.
We will show recent results from HPQCD, building on the work in 1701.04250.
We give predictions for pi and K mesons up to 4 GeV^2 that include calculations for physical u/d quarks and provide accurate predictions for Jefferson Lab.
We also extend the Q^2 range up to 20 GeV^2 by studying mesons made of heavier quarks. At these values of Q^2, discrepancies (both in the values and the Q^2-dependence) with perturbative QCD raise issues of the reliability of the assumptions going in to the perturbative QCD calculations. This has wider implications also for other processes.

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