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Type: **Parallel-Hadron Structure**

Determining the nucleon mass and sigma term from lattice QCD

We report a preliminary, percent-level determination of the nucleon mass M_N and a roughly 5%-level determination of the sigma term $\sigma_{\pi N}$ from lattice QCD. We find that our M_N extrapolation to the physical point agrees with the PDG average. Next we review the significance of $\sigma_{\pi N}$ for direct dark matter searches, and we explore the sensitivity of this observable over choice of chiral models. For our lattice calculations, we employ Möbius domain wall fermions on $N_F = 2 + 1 + 1$ dynamically, highly-improved staggered quark fermions. We include five pion masses, ranging from 130 MeV to 350 MeV; four lattice spacings, ranging from 0.06 fm to 0.15 fm; and multiple lattice volumes.

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