

# The gravitational form factors of the nucleon and the pion from Lattice QCD

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The gravitational form factors (GFFs) of hadrons are related to the matrix elements of the energy-momentum tensor of QCD. In recent years, the proton and pion GFFs have been constrained for the first time from experimental measurements. We compute the quark and gluon GFFs of the pion and the nucleon in the kinematic region  $0 < -t < 2 \text{ GeV}^2$  on a clover improved lattice QCD ensemble with  $a = 0.091 \text{ fm}$  and  $m_\pi = 170 \text{ MeV}$ , employing non-perturbative renormalization via the RI-MOM scheme. Our results for the pion GFFs agree with chiPT predictions, while from fits to the proton GFFs, we obtain estimates for its total  $D$ -term, and for its energy and mechanical distributions.

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