Lattice calculations of the nucleon form factors in full QCD
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PHYSICS COLLABORATION — We present recent results for the nucleon form
factors from lattice simulations by the LHP Collaboration using the chirally sym-
metric domain wall fermions at pion masses as light as 300 MeV. The improved
numerical techniques and the access to the increasing national computing resources
have allowed us to achieve unprecedented precisions in these full QCD calculations.
We investigate phenomenological fits to the momentum transfer dependence of the
form factors, and study chiral extrapolations using baryon chiral effective field theo-
ries. Results are compared with the experiment and challenges in these calculations
are also discussed.