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Nucleon structure from Lattice QCD and future prospects

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We present recent results on the structure of the nucleon using simulations carried out within the framework of lattice QCD. These simulations are performed with physical values of the quark masses yielding results that can be directly compared with experimental results. A complete calculation of the contributions of quarks and gluons to the spin of the nucleon explains the so-called spin puzzle of the proton. First results on the direct determination of nucleon parton distribution functions hold to the promise for an ab initial computation of these important quantities.

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