

Abstract Submitted
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Nucleon strangeness form factors from $N_f = 2 + 1$ clover fermion lattice QCD TAKUMI DOI, University of Tsukuba, MRIDUPAWAN DEKA, SHAO-JING DONG, TERRENCE DRAPER, KEH-FEI LIU, DEVDATTA MANKAME, University of Kentucky, NILMANI MATHUR, Tata Institute of Fundamental Research, THOMAS STREUER, University of Regensburg, χ QCD COLLABORATION — Recent experiments of parity-violating electron scattering (PVES) make it possible to pin down the strangeness electromagnetic form factors in the nucleon. In my talk, I will present a theoretical calculation of strangeness electric and magnetic form factors from a full QCD lattice simulation using $N_f = 2+1$ clover fermion configurations generated by CP-PACS/JLQCD collaborations. I will discuss the methodology which significantly improves the signal for the disconnected insertion calculation. Our lattice results are consistent with experimental values, and our errors are an order of magnitude smaller. I also present preliminary results for the strangeness parton moments in the nucleon.

[1] T. Doi et al. (χ QCD collaboration), arXiv:0903.3232 [hep-ph].

Takumi Doi
University of Tsukuba

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