

Contributions of CP violating interactions to the neutron EDM from lattice QCD

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One of the profound mysteries of nature is the lack of matter-antimatter symmetry in the universe, i.e., the almost total absence of antibaryons. One of the conditions necessary to generate this asymmetry is the violation of charge-conjugation-parity (CP) symmetry. Every interaction that violates CP in the SM (Theta-term) and in theories beyond the standard model (BSM) also contributes to the neutron electric dipole moment (nEDM). Thus, a value (or bound) on the nEDM provides constraints on possible BSM theories. I will describe the status of the calculations of the contributions of novel CP violating interactions (the theta term, quark EDM, quark chromo EDM) to the nEDM being done at Los Alamos.

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