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Strange quark content of nucleon via reweighting on (2+1)-flavor Domain Wall Fermion lattices

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The slope of nucleon mass with respect to the dynamical strange quark mass is directly related to the strange quark content of nucleon ($\langle N | \bar{s}s | N \rangle$).

This slope can be calculated by shifting of dynamical strange quark mass via reweighting on dynamical ensembles, which allows a relatively inexpensive evaluation of the quantity without direct evaluation of disconnected diagrams.

Calculation of $\langle N | \bar{s}s | N \rangle$ on

$a^{-1} \sim 1.7$ and 2.3 GeV

(2+1) flavor dynamical Domain Wall Fermion ensembles RBC/UKQCD collaborations generated are reported.

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talk

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