The 33rd International Symposium on Lattice Field Theory (Lattice 2015)



Contribution ID: 247 Type: Talk

Neutron-antineutron oscillation matrix elements with domain wall fermions at the physical point

Thursday, 16 July 2015 11:20 (20 minutes)

Neutron-antineutron oscillations are hypothetical processes changing the baryon number by 2 units. Compared to proton decay, they present another scenario of baryon number violation and, if found, they would have different implications for phenomenology of baryogenesis. If such baryon number violation exists at higher scales beyond the Standard model, it will manifest itself at the hadron scale as effective six-(anti)quark operators turning neutrons into antineutrons and vice versa. Nucleon matrix elements of these operators are important for experiments looking for evidence of such processes. I will present preliminary results for these matrix elements computed with physical Nf=2+1 domain wall quarks. Results are non-perturbatively renormalized and converted to MSbar.

Primary author: Dr SYRITSYN, Sergey (RIKEN BNL Research Center)

Co-author: Dr BUCHOFF, Michael (University of Washington, USA)

Presenter: Dr SYRITSYN, Sergey (RIKEN BNL Research Center)

Session Classification: Hadron Structure

Track Classification: Hadron Structure