Contribution ID: **63**   Type: **Poster**

Contribution to the anomalous magnetic moment of the muon from the disconnected hadronic vacuum polarization with four-flavors of highly-improved staggered quarks.

Tuesday, July 24, 2018 6:45 PM (2 hours)

We describe a computation of the contribution to the anomalous magnetic moment of the muon from the disconnected part of the hadronic vacuum polarization. We use the highly-improved staggered quark (HISQ) formulation for the current density with gauge configurations generated with four flavors of HISQ sea quarks. The computation is performed by stochastic estimation of the current density using the truncated solver method combined with deflation of low-modes. The parameters are tuned to minimize the computational cost for a given target uncertainty in the current-current correlation function. The calculation presented here is carried out on a single gauge-field ensemble of size $32^3 \times 48$ with an approximate lattice spacing of 0.15 fm and with physical sea-quark masses. We describe the methodology and the analysis procedure.

Primary author: Mr YAMAMOTO, Shuhei (The University of Utah)

Co-authors: Prof. EL-KHADRA, Aida (University of Illinois at Urbana-Champaign); Dr VAQUERO, Alejandro (University of Utah); DETAR, Carleton (University of Utah); Dr MCNEILE, Craig (University of Plymouth); Dr VAN DE WATER, Ruth (Fermilab)

Presenter: Mr YAMAMOTO, Shuhei (The University of Utah)

Session Classification: Poster reception