



Contribution ID: 308

Type: **Oral Presentation**

Efficiently unquenching electromagnetism in QCD+QED

Thursday, August 11, 2022 11:30 AM (20 minutes)

In this talk I will outline a strategy to include the effects of the electromagnetic interactions of the sea quarks in QCD+QED. When computing leading order corrections in the electromagnetic coupling, the sea-quark charges result in quark-line disconnected diagrams which are not easily computed using stochastic estimators. An analysis of their variance can help construct better estimators for the relevant traces of quark propagators. I will present preliminary numerical results for the corresponding contributions to the hadronic spectrum using ensembles of domain-wall fermions from the RBC/UKQCD collaboration.

Primary author: HARRIS, Tim (University of Edinburgh)

Presenter: HARRIS, Tim (University of Edinburgh)

Session Classification: Algorithms

Track Classification: Algorithms (including Machine Learning, Quantum Computing, Tensor Networks)