Contribution ID: **259** Type: **not specified**

Kaon Matrix Elements from Coarse Lattices

Thursday, 26 July 2018 11:00 (20 minutes)

The RBC and UKQCD Collaborations have generated a number of coarse ensembles with 2+1 flavors of Mobius Domain Wall Fermions (MDWF) and physical quark masses using the Iwasaki plus Dislocation Suppressing Determinant Ratio (DSDR) action. Previous work has shown small $O(a^2)$ scaling violations for pseudoscalar decay constants, various masses and Wilson flow scales. In this talk, we present results for B_K and $\Delta I = 2$ $K \to \pi\pi$ matrix elements on these lattices and compare these to continuum limit results obtained for 2+1 flavor lattices with the Iwasaki gauge action. The scaling of these matrix elements will help to determine the utility of measuring $\Delta I = 0$ $K \to \pi\pi$ matrix elements on lattices as coarse as $1/a = 1$ GeV.

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Session Classification: Weak Decays and Matrix Elements

Track Classification: Weak Decays and Matrix Elements