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Generating 2+1+1 Flavor Mobius Domain Wall Fermion Configurations

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The RBC and UKQCD Collaborations are generating 2+1+1 flavor Mobius domain wall fermion configurations with $1/a = 3$ and 4 GeV. To achieve good topological tunneling at these weaker couplings, the gauge action is the Wilson action plus a Dislocation Enhancing Determinant (DED) term. The DED term enhances the probability of gauge fields where topology-changing dislocations are present, through the inverse of the effect produced by the Dislocation Suppressing Determinant Ratio (DSDR) we have employed in strong coupling domain wall fermion simulations. Tests and consequences of the DED term will be discussed and some preliminary results of measurements on these lattices will be given.

Primary author: MAWHINNEY, Robert (Columbia University)

Presenter: MAWHINNEY, Robert (Columbia University)

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