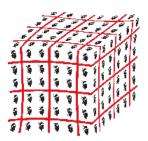Contribution ID: **329**   Type: **not specified**

Improved Semileptonic Form Factor Calculations in Lattice QCD

Tuesday, 15 June 2010 18:00 (5 minutes)

We investigate two alternatives to the Sequential Propagator Method used in Lattice QCD calculations of heavy-light semileptonic form factors. In the first method, which we refer to as the Stochastic Propagator Method, we replace the sequential propagator with a stochastic all-to-all propagator. In the second method, we employ the so called "one-end trick". After minimizing the stochastic noise we compare the three methods using two $N_f=2$ ensembles with non-perturbatively O(a) improved Wilson fermions. The Stochastic Propagator Method results in the most efficient approach for any realistic calculation. We present O(a) improved, matched lattice results on a single ensemble using this approach.

In a complementary effort, we present preliminary O(a) improved, matched results for f_D and f_{Ds} on three ensembles with the same action as those above. Standard point-to-all propagators are used. We perform a chiral extrapolation for f_D and f_{Ds} with sea pion masses as low as ~170 MeV.

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Primary author: EVANS, Richard (Universitaet Regensburg)

Presenter: EVANS, Richard (Universitaet Regensburg)

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