Contribution ID: **344** Type: **Talk**

NPR step-scaling across the charm threshold

Tuesday, 24 June 2014 16:50 (20 minutes)

While Non-Perturbative Renormalisation by itself can be done at any scale, converting it to a perturbative scheme introduces a systematic error decreasing with the scale. In the case of the B_K four quark operator, this is now the dominant error on the MSbar result at 3 GeV. Increasing this scale requires both the access to finer lattices and a correct treatment of the charm effects. We will present a strategy based on step-scaling with a new set of Nf=2+1+1 ensembles generated by the RBC/UKQCD collaboration. In those preliminary results, we will use two different RI/SMOM schemes to estimate the matching error, and we will show that our data gives us good control on chiral and continuum limits.

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Session Classification: Standard model parameters and renormalization

Track Classification: Standard Model Parameters and Renormalization