



Contribution ID: 270

Type: Oral Presentation

Exploring Non-Perturbative Renormalisation of Two- and Four-Fermion Operators on a Range of Valence Actions

We present progress in using momentum-subtraction schemes (RI/MOM and RI/SMOM) to renormalise four-fermion operators, in particular with Wilson fermions. To assess the feasibility and limitations, we study the extraction of renormalisation factors across six different valence actions (including Wilson-Clover and Domain-Wall fermions with and without link smearing). The study uses quenched gauge fields and thus serves mainly to provide guidance in the feasibility of extracting renormalisation factors for different set-ups. We also summarise the status of the publicly available Grid and Hadron libraries for implementing these calculations and explain how different twist trajectories are used to remove higher-order cutoff effects.

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Session Classification: Standard Model Parameters

Track Classification: Standard Model Parameters