

R57i3P of the Phmc-code

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Even if a final self-consistent (independent on external softwares) code is still not achieved, in this note I would like to report the status of the PHMC algorithm, describing the way to run the program and the meaning of the related files. Furthermore, I present some tests within the various sections and finally I discuss a To Do List.

For my purpose, I will take profit of previous notes. Those people who followed the work will recognise several repetitions, needed however to discuss in a possibly satisfactory way some new topics or developments.

1 Setup and Formulae : still another introduction

Studying many non-perturbative QCD properties, we can consider two quark pairs, a light (l) mass degenerate one (u and d flavours) and a heavier (h) mass non-degenerate one (s and c flavour). We

Properties as $O(a)$ -improvement

magnitude as .

The accuracy parameter is now handled as an input parameter called

Again, the accuracy parameter ~

where T_k are the k -degree Chebyshev

where

$$h = 1 + \sim$$

On a 16×8^3 lattice, The HH-group used its code with the following inputs:

$$\begin{aligned} &= 3:30 \quad ; \quad C1 = 0:08333333 \quad ; \quad = 0:170 \\ &^l = 0:01 \quad ; \quad ^l = 0:0 \quad ; \quad ^h = 0:325 \quad ; \quad ^h = 0:275 \end{aligned}$$

where the mass superscripts $l; h$ distinguish

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9.2 CLN

Beside the file `roots_clenshaw.c/h` containing the co

The evident almost equalit

Square_root_BR_roots.dat.

The root ordering has been proved to be correctly done by checking the oscillation (Min, Max, Ratio) during the product discussed

the dependence on the various parameters can b

Even here, the coupling of the

[8] HH-group and al., [