

Lattice QCD simulations

Thursday, February 25, 2010 11:20 AM (40 minutes)

The formulation of QCD on a 4-dimensional space-time euclidean lattice is given. We describe, how with particular implementations of the lattice Dirac operator the lattice artefacts can be changed from a linear to a quadratic behaviour in the lattice spacing allowing therefore to reach the continuum limit faster. We give an account of the algorithmic aspects of the simulations, discuss the supercomputers used and give the computational costs. A few examples of physical quantities which are computed today at almost physical quark masses are presented.

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