Contribution ID: **37** Type: **Talk**

A simple method to optimize HMC performance

Wednesday 27 July 2016 10:40 (20 minutes)

We present a cheap strategy to optimize Hybrid Monte Carlo parameters
in simulations of QCD and QCD-like theories. We specialize to the case of
mass-preconditioning, with multiple-time-step Omelyan integrators.
Starting from properties of the shadow Hamiltonian we show how the
optimal setup for the integrator can be chosen once the forces and
their variances are measured, assuming that those only depend on the
mass-preconditioning parameter.

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Session Classification: Algorithms and Machines

Track Classification: Algorithms and Machines