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Determining the scale in Lattice QCD

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Numerical lattice QCD simulations determine mass (or other) ratios but not the scale itself, which has to be determined from experiment. A hadron mass such as the proton mass or decay constant such as the pion decay constant are often used for this purpose. We discuss here the advantages of setting the scale using a flavour-singlet quantity, which in conjunction with simulations keeping the average quark mass constant allow SU(3) flavour breaking expansions to be used. This is illustrated using 2+1 clover fermions, and a determination of the Wilson flow scales t_0 and w_0 is given.

Primary author: HORSLEY, Roger (University of Edinburgh)

Presenter: HORSLEY, Roger (University of Edinburgh)

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