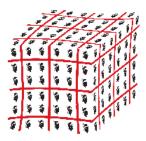
## Lattice2010



Contribution ID: 43 Type: not specified

## The glueball spectrum at large N

Monday, 14 June 2010 15:30 (20 minutes)

Using variational techniques, we measured the masses of the ground-state glueballs and some of their excitations in all the irreducible representations of the cubic group in SU(N) gauge theories for N ranging from 3 to 8,at fixed lattice spacing in the scaling region, where some features of the continuum spectrum are already manifest. For this calculation, we developed an automated method for generating traced loops in all irreducible representations of the cubic group starting from a given closed path; this enabled us to extract glueball masses from a variational basis typically consisting of 40-60 trial operators. Our data show that there is a mild N-dependence of the spectrum, with a modest  $1/N^2$  correction, confirming earlier large-N results on a much wider portion of the low-energy spectrum. Our authomated method for constructing trial operators allows us to address directly the issue of mixing with scattering and torelon states.

## Please, insert your presentation type (talk, poster)

talk

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