

## A Lattice Study of the Glueball Spectrum

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Abstract: Glueball spectrum is studied using an improved gluonic action on asymmetric lattices in the pure SU(3) gauge theory. The smallest spatial lattice spacing is about 0.08 fm which makes the extrapolation to the continuum limit more reliable. In particular, attention is paid to the scalar glueball mass which is known to have problems in the extrapolation. Converting our lattice results to physical units using the scale set by the static quark potential, we obtain the following results for the glueball masses:  $M_G(0^{++})=1730(90)$  MeV for the scalar glueball mass and  $M_G(2^{2++})=2400(95)$  MeV for the tensor glueball.

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Key words: glueball spectrum, lattice QCD

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