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Spectrum of the SU(4) lattice gauge theory with fermions in the anti-symmetric two index representation

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We study the SU(4) lattice gauge theory with Nf=2 Dirac fermions in the anti-symmetric two index (sextet) representation (the SU(4)/sextet" theory). This is a real fermion representation, which allows simulation at non-zero chemical potential with no sign problem. In addition,SU(4)/sextet" is an interesting generalization of QCD, allowing direct exploration of an alternate large-N_c expansion with fermions in the sextet representation. In this talk, I will present our preliminary results on the baryon and meson spectrum of the theory and compare them with SU(3) results and large-N_c scaling.

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