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New results from lattice $N=4$ supersymmetric Yang–Mills

Saturday, 18 July 2015 10:00 (20 minutes)

I will present results from numerical studies of maximally supersymmetric Yang–Mills theory, using a new improved lattice action. I will also summarize the improvement procedure, which modifies the moduli equations in order to lift $U(1)$ flat directions without violating the exact supersymmetry preserved at non-zero lattice spacing by the lattice formulation. The resulting improved action leads to dramatically reduced lattice artifacts and much more rapid approach to the continuum limit, allowing us to investigate stronger couplings on accessible lattice volumes.

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