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Symmetric blocking and renormalization in lattice N=4 super Yang-Mills[1] JOEL GIEDT, Rensselaer Polytechnic Institute, SIMON CATTERALL, Syracuse University — The form of the long distance effective action of the twisted lattice $\mathcal{N} = 4$ super Yang-Mills theory depends on having a real space renormalization group transformation that preserves the original lattice properties, both the symmetries and the geometric interpretation of the fields. We have found such a transformation and have exhibited its behavior through a preliminary Monte Carlo renormalization group calculation. Other results regarding the number of counterterms are also obtained by considering rescalings of the lattice fields.

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