

Abstract Submitted  
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**Large Disorder Renormalization Group Study of the Anderson Model of Localization**<sup>1</sup> SONIKA JOHRI, R. N. BHATT, Princeton University — We describe a large disorder renormalization group (LDRG) scheme for the Anderson model of localization in one dimension which eliminates eigenstates based on the size of their wavefunctions rather than their energy[1] (as done in RG models to date). We show that our LDRG scheme flows to infinite disorder, and thus becomes asymptotically exact. We use it to obtain the disorder-averaged inverse participation ratio and density of states and compare these with results obtained by exact numerical diagonalization for the entire spectrum. A modified method is formulated for higher dimensions, which is found to be less efficient, but capable of improvement. The possibility of extending this scheme to many-body localized states will be discussed. 1. Sonika Johri and R. N. Bhatt, Phys. Rev. B **90**, 060205(R) (2014)

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