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Entanglement entropy of random quantum critical points with general spin JOEL MOORE, UC Berkeley, GIL REFAEL, California Institute of Technology — The bipartite entanglement at 1D critical points of a subsystem of N sites with the remainder is known to diverge as $\log N$, with a coefficient that is related to the central charge for conformally invariant critical points. It was recently shown that for a class of spin-half random critical points, there is also a logarithmic divergence with a coefficient that is universal and corresponds to an irrational "effective central charge." This talk discusses generalizations of this result to higher-spin chains, including the permutation-symmetric critical points found by Damle and Huse, using a combination of analytic and numerical real-space renormalization group methods. Higher-spin chains show numerous complications relative to the spin-half case, such as the introduction of ferromagnetic bonds; their study provides a stringent test of the conjectured c-theorem for central charges defined via entanglement entropy.

Joel Moore
UC Berkeley

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