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Adam Timar^{*} (timar@math.ubc.ca), Department of Mathematics, UBC, The University of British Columbia, Room 121, 1984 Mathematics Road, Vancouver, BC V6T1Z2, Canada. Matchings of exponential tail on coin flips in Z^d .

We construct a translation-invariant matching between vertices of different labels of Bernoulli(1/2) percolation on Z^d , in such a way that the probability that a vertex is at distance > r from its pair decays as an exponential function of the d-2'nd power of r. This improves the previous, polynomial bounds of Holroyd, Peres, and others. Some consequences for invariant matchings in R^d and so-called allocation questions are also presented. (Received February 12, 2008)