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*Some results in 1-independent percolation*

We obtain an improved lower bound for the threshold probability  $p_c$ , for which every 1-independent measure with bond density  $p > p_c$  percolates on the lattice  $\mathbb{Z}^2$ . We also present further results motivated by 1-independent percolation: for any connected graph  $G$ , let  $f_G(p)$  be the infimum over all 1-independent measures  $\mu$  with bond density  $p$  of the probability that a  $\mu$ -random graph is connected. We obtain lower bounds for  $f_G(p)$  for paths, ladders, complete graphs and cycles, and provide constructions giving matching upper bounds for paths, complete graphs and small cycles. Joint work with A. Nicholas Day and Victor Falgas-Ravry.