

1154-60-1091

Vishesh Jain* (visheshj@mit.edu). *A combinatorial approach to the quantitative invertibility of random matrices.*

Let $s_n(M_n)$ denote the smallest singular value of an $n \times n$ random matrix M_n . We will discuss a novel combinatorial approach (in particular, not using either inverse Littlewood–Offord theory or net arguments) for proving statements of the following form for quite general random matrix models: there exist constants $c, C > 0$ such that for all $\eta \geq 0$, $\Pr(s_n(M_n) \leq \eta) \lesssim n^C \eta + \exp(-\Omega(n^c))$. (Received September 13, 2019)