

On singular values of matrices with independent rows

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We present deviation inequalities of random operators of the form $N^{-1} \sum_{i=1}^N X_i \otimes X_i$ from the average operator $\mathbb{E}(X \otimes X)$, where X_i are independent random vectors distributed as X , which is a random vector in \mathbb{R}^n or in ℓ_2 . We use these inequalities to estimate the singular values of random matrices with independent rows (without assuming that the entries are independent).

Keywords: random vectors in \mathbb{R}^n ; singular values of integral operators