ON THE STUDY OF THE OPERATOR NORMS OF SOME RANDOM MATRICES.

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Random operators play a key role in the local theory of Banach spaces to prove the existence of subspaces satisfying some specific properties. On the other hand, the study of spectral properties of random matrices is a wide subject.

For a random matrix $X = (x_{ij})_{1\leq i,j\leq n}$, a lot of asymptotic and non-asymptotic results are known when the entries are independent and identically distributed. In this talk, I will overview some old and new results when the entries of the matrix are independent but not identically distributed. We will focus on the study of various operator norms when the matrix X is seen as acting from ℓ_p^n into ℓ_q^n. The problem is more delicate even in the case $p = q = 2$. We will discuss some potential applications to graph theory.

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