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Matrix Norms Induced by Random Vectors

In a recent article, Chávez, Garcia and Hurley introduced a new family of norms $\|\cdot\|_{\mathbf{X},d}$ on the space of $n \times n$ complex matrices which are induced by random vectors $\mathbf{X}$ having finite d-moments. In this talk, the interesting properties of these norms are exhibited, and recent progress concerning the submultiplicativity of these norms is presented. In particular, we shall see that they are submultiplictive, as long as the entries of $\mathbf{X}$ have finite p-moments for $p = \max\{2 + \varepsilon, d\}$.