

**Title:** Spectral statistics of Bernoulli Matrices and Stein's Method

**Abstract:** We present a random walk approach to uncovering the spectral statistics of Bernoulli matrices (so called as the elements take the values plus or minus one). In particular, by combining these ideas with Stein's method we show that in the limit of large matrix size that one obtains convergence of the fluctuations of traces of powers of these matrices to a multidimensional Gaussian distribution with a covariance structure defined in terms of the Chebyshev polynomials.