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**Leonard N Choup\*** ([Leonard.Choup@uah.edu](mailto:Leonard.Choup@uah.edu)), Department of Mathematics, University of Alabama, Huntsville, AL 35899. *Edgeworth Type Expansion Of The Distribution Of The Largest Eigenvalue In Classical Random Matrix Ensembles.*

We present the aspect of Random Matrix Theory dealing with eigenvalue distribution, especially the probability distribution functions of the largest eigenvalues. Using results from the Gaussian Unitary Ensemble, we derive an N-expansion of the probability distribution of the largest eigenvalue from the Gaussian Orthogonal and Gaussian Symplectic Ensembles of N by N matrices. We conclude with some applications of the these distributions. (Received September 19, 2007)