A SUB-GAUSSIAN BERRY-ESSEEN THEOREM FOR THE HYPERGEOMETRIC DISTRIBUTION

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ABSTRACT

In this paper, we derive a necessary and sufficient condition on the parameters of the Hypergeometric distribution for weak convergence to a Normal limit. We establish a Berry-Esseen theorem for the Hypergeometric distribution solely under this necessary and sufficient condition. We further derive a nonuniform Berry-Esseen bound where the tails of the difference between the Hypergeometric and the Normal distribution functions are shown to decay at a sub-Gaussian rate.