Poster Snapshot

Berry-Esseen Bounds for Two-Color Balanced Urn Models

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In this work we derive convergence rates in the central limit theorems for two-color urn models. The replacement matrix, which governs the evolution of the process is assumed to be non-negative, balanced and irreducible. We first obtain a Berry-Esseen type bound for the (suitably scaled) linear combination of the color configuration vector corresponding to the non-principal eigenvector of the replacement matrix. We then conclude for arbitrary linear functionals of the configuration vector, (after appropriate centering) and also for the color count vector. The rates can be improved in certain cases when the replacement matrix is doubly stochastic.