Abstract

For balanced Pólya urns with two colors the (normalized) number of balls of each color satisfies a limit law with two possible regimes: with weak convergence towards the normal distribution and almost sure convergence towards distributions that can be characterized by moments or by recursive distributional equations. We bound the rate of convergence in these limit theorems for such irreducible urn schemes. The bounds are sufficiently tight to confirm a conjecture of S. Janson for a subclass of these urns.