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Asymptotic Behaviour of Poisson–Dirichlet Distribution

Poisson–Dirichlet distribution is a one-parameter (θ) probability measure on the infinite dimensional ordered simplex. It arises in number theory, combinatorics, ecology, and population genetics. The parameter θ ranges between zero and infinity. Asymptotic behaviour such as law of large numbers, central limit theorem, moderate deviations, and large deviations will be discussed in this talk. The limiting procedures involve both θ goes to zero and to infinity. Generalizations to the two-parameter Poisson–Dirichlet distribution will also be presented.