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## Some Identities for Hypergeometric Functions and Their Use

In the talk we demonstrate how relatively simple identities for the Kummer, Gauss and generalized hypergeometric functions lead to log-concavity theorems for general series in ratios of rising factorials and gamma functions; convergence theorem for a family of Padé iterations for computing the matrix sector function; precise two-sided bounds for the maximum likelihood estimate for the concentration parameter of Watson distribution.