

1030-40-31

**Jerry P. King\*** (jpk2@lehigh.edu), Dept. of Mathematics, Lehigh University, 14 E. Packer Avenue, Bethlehem, PA. *Summability Methods and Probabilistic Approximation Operators.*

The talk explores connections among the mathematical areas of approximation, probability, and summability. The talk is mainly expository but examples from recent research are discussed.

A probabilistic interpretation of convergence of positive linear operators is explained. Consideration is given to a wide class of matrix methods of summability which are generated by certain non-power series expansions of analytic functions. The matrices provide simultaneous generalizations of many classical approximation operators and several standard probability distributions. These generalizations include, in particular, the Poisson distribution and the negative binomial distributions, and the corresponding approximation operators of Szasz and of Baskakov. The role played by these methods in the classical problem of analytic continuation of complex power series is discussed. (Received June 24, 2007)