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Ross P Hilton* (hiltrp6@wfu.edu), Department of Mathematics, Wake Forest University, Winston Salem, NC 27109, **Kenneth S Berenhaut** (berenhks@wfu.edu), Department of Mathematics, Wake Forest University, Winston Salem, NC 27109, and **James W Chernesky**, Department of Mathematics, Wake Forest University, Winston Salem, NC 27109. *A New Asymptotic Expansion for Distributions of Sums of Random Variables.*

In this talk we introduce a local limit theorem for probability distributions of sums of independent and identically distributed random variables. In comparison with Edgeworth-type theorems, advantages include markedly improved asymptotic results in the case of symmetric random variables and ease of computation of the main error term and asymptotic crossing points. (Received September 21, 2010)