

# The skew normal distribution and its quadratic forms

By

Tonghui Wang and Baokun Li  
New Mexico State University

**Abstract:** In this talk, a new class of multivariate skew normal distributions is introduced. Based on this, the noncentral skew chi-square distributions is studied and the necessary and sufficient conditions under which a sequence of quadratic forms is generalized skew chi-square distributed random variables, are obtained. Several examples are given to illustration of the results.