

MATHEMATICS COLLOQUIUM

Comments on the Levy Continuity Theorem

ARUNAVA MUKHERJEA
University of South Florida

The classical Levy continuity theorem, a basic theorem in mathematical statistics, says the following: If $M(n, t)$ is the moment generating function or *mgf* (that is, the bilateral Laplace transform) of a distribution function $F(n)$ such that for t in $(-a, a)$, a being some fixed positive number, $\lim M(n, t) = M(t)$, as n tends to infinity, where $M(t)$ is the *mgf* of a distribution F , then the sequence $F(n)$ converges weakly to F (that is, converges pointwise at each point of continuity of F). This theorem has many applications. To apply this theorem, the limit condition needs to be verified on both sides of the origin. Recently in *Statistics & Probability Letters* 76 (2006), Mukherjea, Rao and Suen have shown that this theorem continues to hold even when the interval $(-a, a)$, $a > 0$, is replaced by any interval (c, d) on R , either $0 < c < d$ or $c < d < 0$. This makes the application of this theorem easier. The main purpose of this talk is to discuss this and a few other relevant results.

Date: Friday, January 26, 2007
Time: 3:00pm-4:00pm
Place: J. Wiener Lecture Hall, MAGC 1.302

Refreshments will be served at 2:55pm.

For further information or for special accommodations, contact Dr. Karen Yagdjian at 381-2145, via email at yagdjian@utpa.edu, or visit www.math.panam.edu/colloquia.html