Meeting: 1005, Newark, Delaware, SS 6A, Special Session on High Dimensional Probability

1005-60-104 **Evarist Gin*** (gine@math.uconn.edu), Department of Mathematics, U-3009, University of Connecticut, Storrs, CT 06269, and **David M. Mason**. *Weak and strong limit theorems for estimators of the density of a function of several samples.*

Central limit theorems and laws of the iterated logarithm are proved for kernel estimators of the density of a function of several samples, $g(X_1, \ldots, X_m)$, $m > 1$. These estimators are U-processes, and the proofs of the results rely on limit theorems and moment and exponential inequalities for these processes, both in the supremum norm and in the L_p norm, $1 \leq p < \infty$, as well as on some probability theory for Banach space valued random variables. (Received February 02, 2005)