

1106-60-2756

**Lu Lu\*** (llu@colby.edu), 5830 Mayflower Hill, Waterville, ME 04901. *On the sup-norm of the Bernstein density estimator.* Preliminary report.

Bernstein density estimation is a promising alternative to the traditional kernel method for estimating probability densities with compact support, (e.g.,  $[0, 1]$ ). The major advantage is that it does not have boundary bias. Here we will study its rate of uniform consistency. In fact, the order of the stochastic error over  $[0, 1]$  is strictly larger than that over a smaller interval. The result also implies that, for a large class of functions, the Bernstein estimator does not attain optimal rate of convergence under the sup norm. (Received September 16, 2014)