1067-Z1-2253 **Lakshmi Roychowdhury*** (`lakshmi@stat.tamu.edu`), 416 Stasney Street, Apt 7, College Station, TX 77840. *Optimal points for a probability distribution on Cantor set.* Preliminary report.

It is well-known that the classical Cantor set C is generated by the two self-similar mappings S_1 and S_2 on $[0, 1]$ given by $S_1(x) = \frac{1}{3}x$ and $S_2(x) = \frac{1}{3}x + \frac{2}{3}$. Let $P = \frac{1}{2}P \circ S_1^{-1} + \frac{1}{2}P \circ S_2^{-1}$. Then P is a probability measure on $[0, 1]$ with the support C. Let X be a random variable taking values on $[0, 1]$ with the probability distribution P. Note that X is a continuous random variable. If one wants to send the information about X to some other place by sending some discrete points say n points, in my talk I will show what are the n-best points for $n = 1, 2, \cdots$. Here by the 'best points' or 'optimal points' it is meant: the points for which the error is minimum with respect to some expect distance. (Received September 22, 2010)