

Sampling in Geometric Set Systems

Homework 4

Suppose that for any integer k there is a set P_k of $\Omega(k \log k)$ points in \mathbb{R}^2 such that for any $Q \subset P_k$ there are k lines that cover Q but are disjoint from $P_k \setminus Q$. Prove that any ε -net for the set system induced by lines in the plane has size $\Omega(1/\varepsilon \log(1/\varepsilon))$.

<http://web.cs.elte.hu/coge/samplingminicourse19.html>