1035-05-795   **Eitan Bachmat*** (`ebachmat@cs.bgu.ac.il`). *Graphs whose subgraphs tend to be acyclic.*
We consider the problem of constructing d-regular graphs whose random subgraphs tend to be acyclic. We show that if we choose edges with probability greater than 1/(d-1) then w.h.p the subgraph will contain a cycle. We would like to construct families of graphs such that chossing edges with probability less then 1/(d-1) will result w.h.p in an acyclic graph. We show that the number theoretic constructions of LPS graphs and of Morgenstern graphs have this property (first proved by Tillich and Zemora), we also provide some more flexible randomized constructions. The problem is motivated by the construction of efficent mirrored storage system configurations. Jont work with Noga Alon. (Received September 15, 2007)