Combinatorial Problems Arising in Massive Data Sets

Fan Chung Graham

University of Pennsylvania Philadelphia, PA 19104

Abstract. We will discuss several combinatorial problems which are motivated by computational issues arising from the study of large graphs (having sizes far exceeding the size of the main memory). A variety of areas in graph theory are involved, including graph labeling, graph embedding, graph decomposition, and spectral graph theory as well as concepts from probabilistic methods and dynamic location/scheduling.