

1145-05-2243 **Emina Soljanin*** (emina.soljanin@rutgers.edu). *The Service Rates of Codes and Vertex Covers of Graphs.*

Coding has traditionally been used in transmission and storage of data to provide reliability in a more efficient way than simple replication. The traditional performance indicators of codes are the minimum distance and the code rate. More recently, special codes have been developed that also provide efficient maintenance of storage under node failures. In addition to the traditional performance indicators, the properties of codes that matter in such scenarios are the code locality and availability. Emerging applications, such as distributed learning and fog computing, are adding yet another use for coding. In these applications, the goal is to maximize the number of users that can be simultaneously served by the system. One such service is simultaneous download of different jointly coded data blocks by many users competing for the system's resources. Here, coding affects the rates at which users can be served. This talk will define the service rates of codes as new performance indicators, survey the existing literature, and show a connection between optimizing the code service rates to the graph vertex cover problem. (Received September 25, 2018)