Meeting: 1003, Atlanta, Georgia, SS 24A, AMS Special Session on Design Theory and Graph Theory, I

1003-05-418John Roger Schmitt* (jrschmi@emory.edu), Dept. of Mathematics & Computer Science,
Emory University, 400 Dowman Drive, Atlanta, GA 30322, and Ronald J Gould and Michael
Ferrara. Potentially K_s^t -graphic degree sequences.

We consider a variation of the classical Turán-type extremal problem as introduced by Erdős et.al. Let π be an *n*-element graphical sequence, and $\sigma(\pi)$ be the sum of the terms in π , that is the degree sum. Let G be a graph. The problem is to determine the smallest even integer m such that any *n*-term graphical sequence π having $\sigma(\pi) \ge m$ has a realization containing G as a subgraph. Denote this value m by $\sigma(G, n)$. Here we determine a lower bound for $\sigma(K_s^t, n)$ - where K_s^t denotes the complete multipartite graph with t partite sets each of size s, and prove equality in the case s = 2. We also provide a graph theoretic proof of the value of $\sigma(K^t, n)$. (Received September 14, 2004)