

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

1003-05-418      **John 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  $\pi$  be an  $n$ -element graphical sequence, and  $\sigma(\pi)$  be the sum of the terms in  $\pi$ , 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  $\pi$  having  $\sigma(\pi) \geq m$  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)