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Yuliang Ji, Jie Ma, Juan Yan and Xingxing Yu*, School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332. *On judicious bipartitions of graphs.*

Bollobás and Scott conjectured that every graph G has a balanced bipartite spanning subgraph H such that for each $v \in V(G)$, $d_H(v) \geq (d_G(v) - 1)/2$. In this paper, we show that every graphic sequence has a realization for which this Bollobás-Scott conjecture holds, confirming a conjecture of Hartke and Seacrest. On the other hand, we use an infinite family of graphs to illustrate that $\lfloor (d_G(v) - 1)/2 \rfloor$ (rather than $(d_G(v) - 1)/2$) may have been the intended lower bound by Bollobás and Scott. We also study bipartitions V_1, V_2 of graphs with a fixed number of edges. We provide a (best possible) upper bound on $e(V_1)^\lambda + e(V_2)^\lambda$ for any real $\lambda \geq 1$ (the case $\lambda = 2$ is a question of Scott) and answer a question of Scott on $\max\{e(V_1), e(V_2)\}$. (Received February 07, 2017)