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Nathan Kahl*, Nathan.Kahl@shu.edu. *On Constructing Rational Spanning Tree Edge Densities.*

Let $\tau(G)$ and $\tau_G(e)$ denote the number of spanning trees of a graph G and the number of spanning trees of G containing edge e of G , respectively. Ferrara, Gould, and Suffel asked if, for every rational $0 < p/q < 1$ there existed a graph G with edge $e \in E(G)$ such that $\tau_G(e)/\tau(G) = p/q$. In this note we provide constructions that show this is indeed the case. Moreover, we show this is true even if we restrict G to claw-free graphs, bipartite graphs, or planar graphs. Let $\text{dep}(G) = \max_{e \in E(G)} \tau_G(e)/\tau(G)$. Ferrara et al. also asked if, for every rational $0 < p/q < 1$ there existed a graph G with $\text{dep}(G) = p/q$. For the claw-free construction, we are also able to answer this question in the affirmative. (Received March 17, 2017)