A Function Associated with the Hall Ratio

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Let G be a finite and simple graph. The Hall Ratio of G, denoted $\rho(G)$, is defined to be the max $\left[\frac{n(H)}{\alpha(H)} \mid H\ is\ a\ subgraph\ of\ G\right]$. Here, $n(H)$ denotes the number of vertices in H and $\alpha(H)$ denotes the vertex independence number of H. In this talk, we define a new function on G, explore how this function behaves on a variety of the "usual graphs", and discuss its relationship to the Hall Ratio.

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