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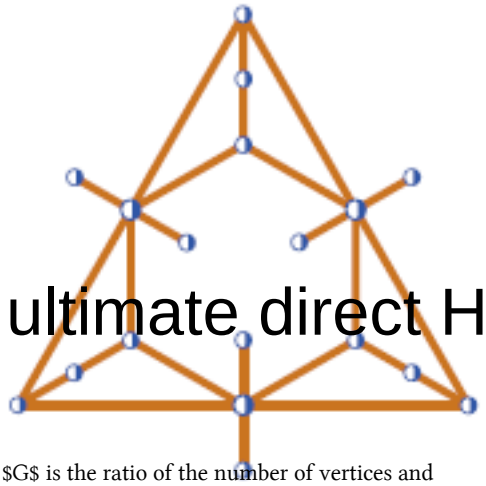

On the ultimate direct Hall-ratio

Content :

The Hall-ratio $\rho(G)$ of a graph G is the ratio of the number of vertices and the independence number maximized over all subgraphs of G. The ultimate direct Hall-ratio of a graph G is defined as $\lim _{k\to \infty} \rho (G^{\times k})$, where $G^{\times k}$ denotes the kth direct power of G (that is, $G^{\times k}$ is defined on the k-length sequences over the vertex set of G, and two such sequences are connected iff their elements form an edge in G at every coordinate). We prove the conjecture of Simonyi stating that the ultimate direct Hall-ratio equals to the fractional chromatic number for all graphs.
The proof uses a recent result of Zhu that he proved on the way when proving the fractional version of Hedetniemi's conjecture.

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