

Independence Number and Clique Minors

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Since $\chi(G) \cdot \alpha(G) \geq |V(G)|$, Hadwiger's Conjecture implies that any graph G has the complete graph $K_{\lceil \frac{n}{\alpha} \rceil}$ as a minor, where n is the number of vertices of G and α is the maximum number of independent vertices in G . Motivated by this fact, it is shown that any graph on n vertices with independence number $\alpha \geq 3$ has the complete graph $K_{\lceil \frac{n}{2\alpha-2} \rceil}$ as a minor. This improves the well-known theorem of Duchet and Meyniel and the recent improvement due to Kawarabayashi, Plummer, Toft. A new result on the odd version of Hadwiger's Conjecture will also be mentioned.

This is joint work with Ken Kawarabayashi.