What we are proving

Lemma (Rabern 2009)**.** *There exists a positive constant $c < 1$ such that every graph satisfying $\omega > c(\Delta + 1)$ has a stable set hitting every maximum clique.*

Paper memory

Lemma (Hajnal 1965)**.** *For a collection $\mathcal{Q}$ of maximum cliques in a graph G we have*

$$\left|\bigcup \mathcal{Q}\right| + \left|\bigcap \mathcal{Q}\right| \geq 2\omega(G).$$

Clique graph. For a collection of cliques $\mathcal{Q}$ in a graph, let $X_{\mathcal{Q}}$ be the intersection graph of $\mathcal{Q}$; that is, the vertex set of $X_{\mathcal{Q}}$ is $\mathcal{Q}$ and there is an edge between $Q_1 \neq Q_2 \in \mathcal{Q}$ iff Q_1 and Q_2 intersect.

Lemma (Kostochka 1980)**.** *Let G be a graph satisfying $\omega > \frac{2}{3}(\Delta + 1)$. If $\mathcal{Q}$ is a collection of maximum cliques in G such that $X_{\mathcal{Q}}$ is connected, then $\cap\mathcal{Q} \neq \emptyset$.*

Lemma (Alon 1988)**.** *A partition $\{V_1, \dots, V_r\}$ of the vertex set of a graph G has an independent transversal if $|V_i| \geq 2e\Delta(G)$ for each i.*

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