multifold kernel magic

landon rabern

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Abstract

1 Introduction

Definition 1. The *maximum independent cover number* of a graph G is the maximum $\mathrm{mic}(G)$ of $\|I, V(G) \setminus I\|$ over all independent sets I of G.

Kernel Magic. *Let $G = (V, E)$ be a nonempty graph and $f\colon V \to \mathbb{N}$ with $f(v) \leq d_G(v) + 1$ for all $v \in V$. If there is an independent $A \subseteq V$ such that*

$$\|A, V\| \geq \sum_{v \in V} d_G(v) + 1 - f(v),$$

then G has a nonempty induced subgraph H that is online $(rf_H : r)$-choosable where $f_H(v) := f(v) + d_H(v) - d_G(v)$ for $v \in V(H)$.