



THE UNIVERSITY of
MISSISSIPPI

Department of Mathematics

American Mathematics Society Graduate Student Seminar

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*The Independent Bondage Number of Planar
Graphs with Girth Conditions*

Friday, November 18, 2022, 2:00 P.M. in Hume 321

Abstract: For a finite graph G , a vertex set D of G is said to be a dominating set of G , if every vertex $v \in V(G) - D$ has a neighbor in D . Further, if D is independent as well, we say D is an independent dominating set. Define $\gamma_i(G)$ to be the minimum cardinality among all independent dominating sets of G . The independent bondage number of G denoted by $b_i(G)$, is defined as $\min\{|B| : B \subset E(G) \text{ such that } \gamma_i(G - B) > \gamma_i(G)\}$. In this talk, we show that $b_i(G) \leq 5$ and $b_i(G) \leq 6$ for planar graphs of $\delta(G) \geq 3$ with $g(G) \geq 5$ and $g(G) \geq 4$ respectively. Furthermore, we present some upper bounds for the independent bondage number with other girth conditions.

Faculty, staff and students are welcome to attend!