A Vizing-type result for semi-total domination

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A set of vertices S in a simple isolate-free graph G is a semi-total dominating set of G if it is a dominating set of G and every vertex of S is within distance 2 or less with another vertex of S. The semi-total domination number of G, denoted by $\gamma_{t2}(G)$, is the minimum cardinality of a semi-total dominating set of G. We show that for any graphs G and H, $\gamma_{t2}(G\Box H) \geq \frac{1}{3}\gamma_{t2}(G)\gamma_{t2}(H)$.

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