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# RESTRAINED WEAK ROMAN DOMINATION IN GRAPHS

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**Abstract:** Let $G = (V, E)$ be a graph and $f : V \to \{0, 1, 2\}$ be a weak Roman dominating function on $G$. $f$ is called a restrained weak Roman dominating function, if each vertex $u \in V$ with $f(u) = 0$ is adjacent to another vertex $v \in V$ such that $f(v) = 0$. The weight of a restrained weak Roman dominating function $f$ is defined as $w(f) = f(V) = \sum_{v \in V} f(v)$. The minimum weight of a restrained weak Roman dominating function on $G$ is called the restrained weak Roman domination number of $G$ and is denoted by $\gamma_{rr}(G)$.

**Keywords and Phrases:** Weak Roman domination, restrained weak Roman domination.

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