Group distance magic cubic graphs

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A Γ-*distance magic labeling* of a graph $G = (V, E)$ with $|V| = n$ is a bijection ℓ from V to an Abelian group Γ of order n, for which there exists $\mu \in \Gamma$, such that the weight $w(x) = \sum_{y \in N(x)} \ell(y)$ of every vertex $x \in V$ is equal to μ. In this case, the element μ is called the *magic constant of G*. A graph G is called a *group distance magic* if there exists a Γ-distance magic labeling of G for every Abelian group Γ of order n.

In this talk, we focus on cubic Γ-distance magic graphs as well as some properties of such graphs.