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Metric Dimension of circulant graphs and Cayley hypergraphs

A pair of vertices x and y in a graph (or hypergraph) G are said to be resolved by a vertex w if the distance from x to w is not equal to the distance from y to w . We say that G is resolved by a set of vertices W if every pair of vertices of G is resolved by some vertex in W . The minimum cardinality of a resolving set for G is the metric dimension of G . In this talk, we bound the metric dimension of Cayley hypergraphs on finite Abelian groups with the canonical set of generators, and we show that the metric dimension of these hypergraphs is related to the metric dimension of a Cartesian product of circulant graphs. We also present some new results on the metric dimension of circulant graphs. This is joint work with my student Adam Borchert.