

1023-05-1062

**Angela S. Hicks\*** ([angela.hicks@furman.edu](mailto:angela.hicks@furman.edu)), Furman 28472, 3300 Poinsett Hwy, Greenville, SC 29613. *The Metric Dimension of the Cayley Digraphs of Finite Abelian Groups.*

Let  $v$  be a vertex in the digraph  $D$  and  $S = \{s_1, s_2, \dots, s_n\}$  be an ordered subset of the vertices of  $D$ . Let  $d(x, y)$  denote the distance from a vertex  $x$  to a vertex  $y$ . Define a vector  $r(v|S) = (d(v, s_1), d(v, s_2), \dots, d(v, s_n))$ . The set  $S$  is a resolving set for  $D$  if for distinct vertices of  $D$ , say  $v_1$  and  $v_2$ ,  $r(v_1|S) \neq r(v_2|S)$ . The minimum cardinality of a resolving set of  $D$  is the metric dimension of  $D$ . We improve the bounds on the metric dimension of Cayley digraphs of finite Abelian groups with respect to the standard generators. (Received September 24, 2006)