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Stephen H Dong* (sdong@students.kennesaw.edu) and **Erik E Westlund**
(ewestlun@kennesaw.edu). *Interval edge-colorings of Cayley graphs*. Preliminary report.

A proper t -edge-coloring of a graph G is called *interval* if all t colors (integers in $\{1, \dots, t\}$) are used, and the edges incident to each vertex form an interval of integers, e.g, $[a, b] = \{a, a + 1, \dots, b - 1, b\}$. The graph G is called *interval colorable* if there exists an interval t -edge-coloring of G for some $t > 0$. Interval colorable graphs were introduced by Asratian and Kamalian in 1987 who established that $\chi'(G) = \Delta(G)$ is necessary (though not sufficient) for G to be interval colorable. Previous work has investigated this problem on several classes of graphs: cliques, n -cubes, planar graphs, trees, and certain complete multipartite graphs among others. Even restricting to regular graphs and bipartite graphs, the decision problem is NP-complete. We present some new preliminary results related to interval colorability and bounds on the largest size of the color palette for certain Class 1 Cayley graphs. (Received September 16, 2015)