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D. Christopher Stephens* (cstephen@mtsu.edu), Department of Mathematical Sciences, Middle Tennessee State University, P. O. Box 34, Murfreesboro, TN 37132, and **Thomas W. Tucker** and **Xiaoya Zha**. *Representativity of Cayley maps*.

A Cayley map is an embedded Cayley graph with the property that the clockwise rotation of generators is the same at each vertex. This project is driven by the following question: given a finite group and a generating set, what are the minimum and maximum representativities that can be achieved by a corresponding Cayley map? In particular, we are interested in whether we can achieve representativity at least two. In this talk we will discuss the cases in which the generating set has size two or three; we will discuss prime-order cyclic groups and making use of primitive roots; and we will discuss a way to define representativity as a certain minimum over words in groups, and to thereby compute the representativity from the one-vertex rotation rather than by lifting to the actual embedding. (Received September 26, 2006)