1011-05-358 **Robert Jajcay*** (jajcay@cayley.indstate.edu), Department of Mathematics and Computer Scienc, Indiana State University, Terre Haute, IN 47809. *Combinatorial structures with regular (full) automorphism group.*

As proved by Sabidussi, the property of possessing a regular (sub)group of automorphisms is equivalent to a graph being Cayley. Due to this inherent high level of symmetry, Cayley graphs allow for many applications, both graph-theoretical and practical. In our talk, we shall extend the concept of being Cayley to other combinatorial structures as well. In particular, we will look for combinatorial structures whose *full* automorphism group acts regularly on the set of vertices of these structures. The results include the classification or "near classification" of all finite groups allowing for regular representation on (general) incidence structures, hypergraphs, and Cayley maps. (Received August 30, 2005)