

Discrete Mathematics Seminar

Time: Friday, 10 September 2010, 12:30–1:30 PM
Location: 238 Derrick Hall
Title: Regular and p -regular orbits of solvable linear groups
Speaker: Dr. Thomas Keller, Mathematics Department

Abstract:

Let G be a finite solvable group and V a finite faithful irreducible G -module. An element $v \in V$ is said to be in a regular orbit of G if $C_G(v) = 1$. For a prime number p , an element $v \in V$ is said to be in a p -regular orbit of G if $|C_G(v)|$ is not divisible by p . Clearly, if $v \in V$ is in a regular orbit of G , then it is in a p -regular orbit of G for any prime p . J. P. Zhang asked whether the converse of this statement is also true. We show that in general the answer to this question is no, but answer it in the affirmative for groups of odd order. (This is joint work with Yong Yang.)