Discrete Mathematics Seminar

Time: Friday, 20 November 2009, 1:00–2:00 PM

Location: 238 Derrick Hall

Title: Regular Orbits of Finite Primitive Solvable Groups

Speaker: Dr. Yong Yang, Mathematics Department

Abstract:

Suppose that a finite solvable group G acts faithfully, irreducibly and quasi-primitively on a finite vector space V. Then G has a uniquely determined normal subgroup E which is a direct product of extraspecial p-groups for various p and we denote $e = \sqrt{|E/\mathbf{Z}(E)|}$. We prove that when $e \geq 10$ and $e \neq 16$, G will have at least 5 regular orbits on V. We also construct groups with no regular orbits on V when $e = 8$, 9 and 16.