

VCU Discrete Mathematics Seminar

Nonabelian Partial Difference Sets

Prof Ken Smith
(Sam Houston State University)

Wednesday, April 26
1:00-1:50 EDT

In person! in 4145 Harris Hall, and Zoom @
<https://vcu.zoom.us/j/92975799914>
password=graphs2357



Strongly regular graphs provide a fertile area of exploration in algebraic combinatorics, integrating techniques of graph theory, linear algebra, group theory, finite geometry and number theory. Of particular interests are those strongly regular graphs with a large automorphism group.

If an automorphism group acts regularly (sharply transitively) on the vertices of the graph then we may identify the graph with a certain object, a “partial difference set”, in a group ring and then apply techniques from finite group theory to examine the graph. In the past four decades, much work has been done on this topic, concentrating on abelian automorphism groups using the powerful techniques of character theory. However, little work has been done on strongly regular graphs with nonabelian regular automorphism groups.

For the DM seminar schedule, see:

<https://go.vcu.edu/discrete>