



THE UNIVERSITY of
MISSISSIPPI
Department of Mathematics

AMS Graduate Student Seminar

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Subspaces in difference sets in vector spaces

Thursday, September 20, 2018,
3:00 p.m. Hume 321

Abstract: A common theme in additive combinatorics states that if A is a subset of positive density of a vector space \mathbb{F}_p^n , then the difference set $A - A$ must contain a large subspace. A result of Sanders says that when $p=2$ and A has density at least $1/2 - c/\sqrt{n}$, $A - A$ must contain a subspace of codimension 1. We generalize this result to all p while giving a simpler and elementary proof. Our proof is based on an argument of Wirsing. This is joint work with Dr. Thai Hoang Le.