NEIL LYALL  
University of Georgia, Athens  

Polynomial configurations in difference sets  

Suppose $A$ is a subset of the integers of positive upper density. We prove a quantitative result on the existence of linearly independent polynomial configurations in the difference set of $A$. Our approach is to first establish a higher dimensional analogue of a theorem of Sárközy and Furstenberg, and then apply a simple lifting argument. This is joint work with Ákos Magyar.