Combinatorics and Probability Seminar

*The additive structure of algebraic (and other nice) sets at infinity*

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**Abstract:** If X and V are closed sets in $\mathbb{R}^n$, then the closure of $X+V$ can be covered by $X+V$ itself together with a ''Frontier set'' of points limited to by a sequence $x_i+v_i$ with the individual sequences $(x_i)$ and $(v_i)$ tending to infinity. If V has additional structure like being an algebraic variety then the Frontier set can be (surprisingly) shown to be a union of lines, via the model-theoretic technique of ''infinitesimal stabilizers'' introduced by Peterzil and Starchenko. In joint work with Spencer Dembner using more subtle properties of the Frontier set, we resolve a conjecture of Gallinaro on the structure of the topological image-closure of a complex algebraic variety under the coordinate-wise complex-exponential map.

Monday, October 17 at 2:00 PM in 636 SEO