

DREXEL ANALYSIS SEMINAR

September 30, 2022

2-3 PM, Korman 245

Speaker: Juriij Volcic (Drexel)

Title: Free Bertini's theorem and isospectral noncommutative polynomials

Abstract: In algebraic geometry, a very special case of Bertini's theorem asserts that level sets of a polynomial function are typically irreducible, unless the function factors through an affine line. This talk addresses an analog of this statement in free analysis, which considers eigenlevel sets of a noncommutative polynomial. This result bears some consequences for isospectral pairs of noncommutative polynomials, i.e., those whose matrix evaluations have the same spectra. Nevertheless, several questions about such pairs remain open.