Department of Mathematics

University of Houston

Analysis Seminar

FRIDAY, October 12, 2018

13:00-14:00 - Room 646 PGH

Speaker: Scott Atkinson (Vanderbilt University)

Title: A selective version of Lin's Theorem

Abstract: Lin's Theorem says that a pair of nearly commuting self-adjoint matrices is near a pair of commuting self-adjoint matrices where "near" is with respect to the operator norm, and the estimates are independent of dimension. Such a statement is subject to many generalizations and variations – we will discuss some that fail and some that hold. To add to the list of affirmative generalizations and variations, we will show that in a finite factor von Neumann algebra, an n-tuple of self-adjoints for which pairs in a certain selection nearly commute is near an n-tuple of self-adjoints for which the pairs from the corresponding selection truly commute; in this case "near" is with respect to the Hilbert-Schmidt norm coming from the trace. To prove this theorem we obtain results on the tracial stability of certain graph products of abelian C*-algebras. Such results apply further to characterize the amenable traces of certain right-angled Artin groups.