Department of Mathematics

University of Houston

Analysis Seminar

FRIDAY, March 30, 2018

13:00-14:00 – Room 646 PGH

Speaker: Paweł Kasprzak (University of Warsaw)

Title: Quantum actions on discrete quantum spaces

Abstract: To any action of a compact quantum group on a von Neumann algebra which is a direct sum of factors we associate an equivalence relation corresponding to the partition of a space into orbits of the action. We show that in case all factors are finite-dimensional (i.e. when the action is on a discrete quantum space) the relation has finite orbits.
We then apply this i) to generalize the classical theory of Clifford, concerning the restrictions of representations to normal subgroups, to the framework of quantum subgroups of discrete quantum groups, itself extending the context of closed normal quantum subgroups of compact quantum groups; ii) to the context of idempotent states showing that the algebra of invariant elements is finite dimensional if and only if the corresponding state is normal.
Joint work with K. De Commer, A. Skalski and P. Sołtan.