

COMPACT QUANTUM ERGODIC SYSTEMS ARISING FROM PLANAR ALGEBRAS

Frank Taipe
Instituto de Matemática y Ciencias Afines, Peru

Abstract

This talk presents a framework for constructing ergodic actions of compact quantum groups on operator algebras, derived from the diagrammatic data encoded in subfactor planar algebras. Using a Tannaka–Krein reconstruction approach, the method interprets planar algebras as diagrammatic models for weak unitary tensor functors on rigid C^* -tensor categories, from which compact quantum ergodic systems can be reconstructed. This perspective highlights the deep interplay between subfactor planar algebras, categories of noncrossing partitions, and the dynamics of compact quantum groups. This is joint work with Simeng Wang.