

IWOTA Talk of David Kribs

Title:

Operator algebras, graph theory, and distinguishing quantum states with LOCC

Abstract:

In this talk, I'll discuss my work with collaborators on a fundamental topic in quantum information: Given a known set of quantum states, when can two parties distinguish the states in the hybrid classical-quantum communication setting called local (quantum) operations and classical communication (LOCC). I'll show how we've been able to make use of some tools from operator theory and operator algebras to develop techniques that solve certain subproblems, and, more recently, a graph theory approach we've introduced that is helping us solve others (and which very interestingly appears to connect with some work of Steve's from a few decades ago). This talk is based on joint works with Comfort Mintah, Michael Nathanson, and Rajesh Pereira.