

GRADUATE SEMINAR

Ryan Tessier

Quantum Graph Coloring

PhD Student supervised by D. Farenick

Date: November 16, 2016

Time: 2:30 – 3:30

Location: Math/Stats Lounge

Abstract:

The chromatic number of a finite simple graph is a well known quantity which I will review via a graph coloring game between two players. By allowing these players to share a quantum bit, one can define the notion of a quantum chromatic number. It will be shown that this quantum chromatic number provides a lower bound to the classical chromatic number. The study of quantum coloring involves positive operator valued measures and the C^* -algebras they generate. In this lecture I will explore some of those connections.