



Differential Equations and Applied Math Seminar

Dr. Jake Fillman, Texas State University

12-1pm October 21st, 2022

328 DH

Title: A gap labelling theorem for the 1D Ising model

Abstract: In the mid 1990's, Baake, Grimm, and Pisani noticed a surprising phenomenon when investigating critical phenomena for a 1D Ising model. They observed that the distribution of zeros for the partition function appears to obey a law called the "gap labelling theorem." Since that time, there have been many advances in mathematical physics, and one can now explain this empirical observation by using some modern tools from spectral theory. We will define and discuss relevant background — I will not assume familiarity with the Ising model, partition functions, or the gap labelling theorem in the talk.

Interested faculty, graduate and undergraduate students are encouraged to attend.