



Mathematics and CS Seminar

Classification of disordered insulators in 1D

Jacob Shapiro

Princeton University

Host: Laszlo Erdős

In this talk I will describe some of the mathematical aspects of disordered topological insulators. These are novel materials which insulate in their bulk but (may) conduct along their edge; the quintessential example is that of the integer quantum Hall effect. What characterizes these materials is the existence of a topological index, experimentally measurable and macroscopically quantized. Mathematically this is explained by applying algebraic topology to the space of appropriate quantum mechanical Hamiltonians; I will survey some recent results mainly concentrating on the classification problem in one dimension, where the problem reduces to studying spaces of unitaries (resp. orthogonal projections) which essentially-commute with a fixed projection.

Tuesday, October 17, 2023 02:15pm - 03:15pm

Heinzel Seminar Room (I21.EG.101), Office Building West, ISTA



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.