

Quantitative analysis of phase transitions in two-dimensional XY models using persistent homology

Wednesday 29 September 2021 16:40 (30 minutes)

In this talk I will introduce persistent homology, a tool from the emerging field of topological data analysis, and demonstrate how it can be used to produce new observables of lattice spin models. In particular, I will talk about recent work on developing a persistent homology-based methodology to extract the critical temperature and critical exponent of the correlation length of phase transitions in three variants of the two-dimensional XY model

Presenter: SALE, Nicholas (Swansea University)

Session Classification: Session 6