Abstract
I will discuss fractal subsystem symmetries and topological phases with such symmetries. I first discuss a class of two dimensional symmetry-protected topological (SPT) phases protected by fractal subsystem symmetries. I address the problem of classification. I will show that there exists countably infinite fractal SPT phases which can be enumerated by their degree of locality, contrasting with results for regular (non-fractal) subsystem symmetries. Next, I will discuss "fractalization", a procedure by which a stabilizer model is extended to a higher-dimensional "fractal" model. This provides a unified view of fractal SPTs and type-II fracton models in terms of well-understood lower-dimensional models. This construction also leads to a fractal subsystem code which is conjectured to saturate an information storage tradeoff bound in 3D.