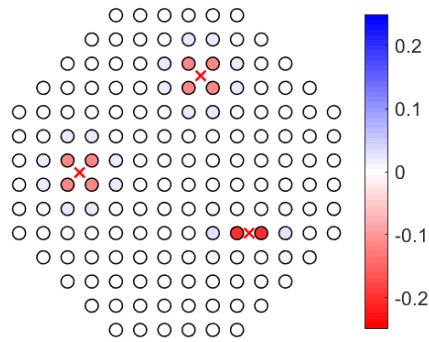


Size, shape and braiding statistics of anyons

Anne E. B. Nielsen (MPI-PKS)



We start from lattice fractional quantum Hall models and show how one can add anyons into the models. In standard fractional quantum Hall models it has turned out to be challenging to construct analytical wavefunctions containing negatively charged anyons, and the complexity of the wavefunctions makes it difficult to study these. We show that it is much simpler to insert negatively charged anyons into models on lattices. We then use Monte Carlo simulations to study the size, shape and braiding properties of positively and negatively charged anyons for both Abelian and non-Abelian models. This also allows us to make pictures of the anyons like the one shown in the figure.