

Contribution ID: 154

Type: Talk in parallel session

Polarization Pairs and Non-invertible Duality Defects across Dimensions

Thursday 5 September 2024 14:30 (20 minutes)

A (2k)-dimensional quantum field theory involving self-dual (k-1)-form gauge fields a priori defines a relative QFT; the partition function is not scalar-valued when evaluated on closed spacetime manifolds. It is necessary to pick a polarization of the intermediate defect group to have a well-defined, or absolute, QFT. Once the polarization is chosen the resulting theory has a (k-1)-form symmetry. If the (k-1)-form symmetry is gaugeable, it is useful to introduce the polarization pair, which resolves an ambiguity under the gauging of the (k-1)-form symmetry. I will introduce the polarization pair and discuss its connection to concepts like the symmetry-TFT and non-invertible duality defects. Furthermore, I will discuss how we can use the polarization pair to learn about the structure of non-invertible symmetries "across dimensions". This talk is based on previous and upcoming work with Xingyang Yu and Hao Zhang.

Link to publication (if applicable)

https://inspirehep.net/literature/2670505

Author:LAWRIE, CraigPresenter:LAWRIE, CraigSession Classification:Parallel sessions

Track Classification: Generalised symmetries