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Title:

Higher structure of chiral symmetry

Abstract:

Recent progress suggests to think about symmetries of QFTs in terms of topological defects. This can give rise to a higher structure for symmetries, which corresponds to the intricate relationships that topological operators of varying dimensions can possess. In this talk we will explore some features of the higher structure of symmetries and we will use anomalous chiral symmetry in four-dimensions as a concrete explicit example. In particular, we will argue that the higher structure is physical (ie. it can be detected in suitable correlators), and it also gives rise to Ward-Takahashi identities on four-dimensional spacetimes with non-trivial topology.