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Anton Kapustin: Symmetries, anomalies, and the bulk-boundary correspondence

Monday 28 August 2023 10:15 (1 hour)

't Hooft anomalies are obstructions to gauging a global symmetry of a QFT. In one spatial dimension 't Hooft anomaly of a Lie group symmetry can also be described purely algebraically, without a reference to gauging: it manifests itseld a non-trivial central extension of the current algebra. In higher dimensions, there is no completely satisfactory algebraic reformulation of 't Hooft anomaly. In this talk, I will argue that such an algebraic reformulation should involve higher-form symmetries. To support this claim I will discuss analogous issues for gapped lattice systems in one dimension higher which are related to QFT via the bulk-boundary correspondence.