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Smooth generalized symmetries

Monday 2 September 2024 11:30 (30 minutes)

I describe an axiomatic formulation of QFT (following Segal, Atiyah, and Kontsevich) using bordism and the language of infinity categories. In this language, QFTs are collectively assembled into a generalized space, whose (higher) homotopy groups encode (generalized) symmetries of QFTs. In this picture, 't Hooft anomalies can be understood as a failure to respect locality. A new kind of anomaly arises, which can be understood as a failure to respect smoothness; an example occurs already in the quantum mechanics of a two-state system.

Link to publication (if applicable)

Presenter: GRIPAIOS, Ben

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