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TWO-DIMENSIONAL EXTENDED HQFTS WITH ARBITRARY TARGETS

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Abstract

Inspired by theoretical physics, topological quantum field theories (TQFTs) produce manifold invariants behaving well under gluing. Homotopy quantum field theories (HQFTs), introduced by Turaev, generalize TQFTs to manifolds equipped with continuous maps to fixed target space. A different generalization of TQFTs is given by extended TQFTs which includes lower-dimensional manifolds utilizing higher categories. In this talk, we define and classify 2-dimensional extended HQFTs with arbitrary targets generalizing the earlier work on $K(G,1)$ -targets using the methods introduced for TQFTs by Chris Schommer-Pries in 2009.

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