

SymTFTs for $U(1)$ symmetries from descent

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Recently, the notion of symmetry descent has been introduced in order to obtain the $(d+1)$ -dimensional Symmetry TFT (SymTFT) of a d -dimensional QFT from the edge mode behaviour of a theory in $(d+2)$ -dimensions. This method has so far been used to obtain SymTFTs for discrete higher-form symmetries of geometrically engineered QFTs. In this note, we extend the symmetry descent procedure to obtain SymTFTs for $U(1)$ higher-form symmetries of geometrically engineered QFTs. We find the resulting SymTFTs match those in the works of Antinucci-Benini and Brennan-Su.

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