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Type : **Parallel**

Theta-angle, global symmetries and sign problem in compact 1+1D U(1) gauge theories

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Content

I discuss a method to define a theta-angle in 1+1D gauge theories with matter in a way which allows for a dual description without the sign problem. The method begins with non-compact gauge theory with a continuous \mathbb{R} -valued center symmetry. By gauging the center symmetry down to $U(1)$, a natural theta-term can be introduced through the gauge field for the center symmetry. The theory in this formulation can be dualized in such a way so that the sign problem is avoided. I discuss briefly the special case of $\theta=\pi$ and possible scenarios that can be tested in lattice simulations.

Preferred track (if multiple tracks have been selected)

Theoretical Developments

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