

Tuesday, October 7th @ 2pm
Schwinger Lounge

“ Noether theorem, non-local currents, non-invertible symmetries”

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Abstract: I will review the paper 2507.22976, written in collaboration with Adar Sharon and Yunqin Zheng, where we describe a generalized version of the Noether theorem. In the traditional setting, continuous symmetries are always associated to conserved currents. We investigate to what extent this is also true in the case of non-invertible symmetries, a generalization of the concept of symmetry which has found lots of interesting applications in the recent literature. (Of course, I will try to motivate why non-invertible symmetries are interesting and useful, and as such, you should care about our generalization!). I will also explain why (the few) known examples of continuous non-invertible symmetries considered in the literature are, in a technical sense that I will describe, kind of boring, and how our theorem allows for new, unknown symmetries which are actually more interesting.