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Title: Timelike Hypersurfaces in Causal Set Quantum Gravity

Abstract: While it has long been known the causal set action diverges upon the inclusion of timelike boundaries, there has been little study of where divergence this originates, how to correct for it, or how to independently measure the boundary geometry. In this talk, we address these problems as well as new phenomena uncovered during their study.

Ultimately, we aim to understand how to accurately measure the volume and extrinsic curvature of generic timelike hypersurfaces in finite-sized systems.