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A Measure for Manifoldlikeness of a Causal Set[1] MIREMAD AGHILI, LUCA BOMBELLI, BENJAMIN PILGRIM, University of Mississippi — Causal Set Theory is an alternative theory for quantization of spacetime. It is based on the well known result that one can extract all the components of the metric just by knowing the volumes and structure of the light cones. In Causal set theory, volumes are measured by counting the number of points (atoms of spacetime) and light cone structure is replaced with the partial order between these set of points. A generic partially ordered set does not represent a spcetime manifold. This is a big question in the field of Causal Set Theory and is important in defining the action for the theory. This presentation provides a method to measure the manifoldlikeness of a Causal Set.

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