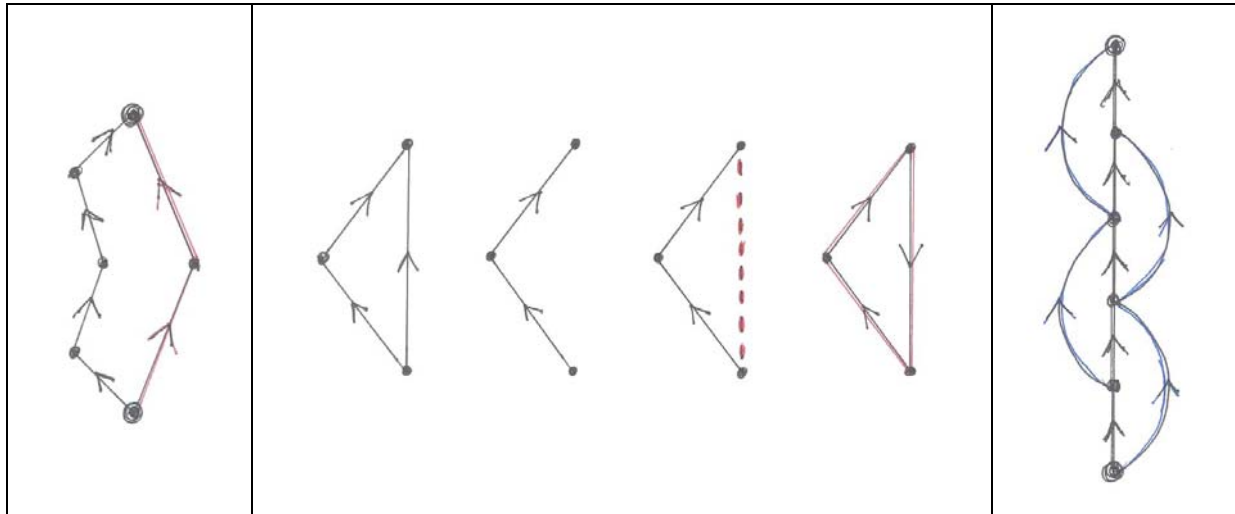


Physics Seminar

Wednesday 9/5/2007, 4:30 pm
Science & Engineering Building Auditorium

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Causal Sets, Graphs and the Planck Scale Mirage

A causal set is a model of the discrete microstructure of continuous spacetime. It is a collection of points connected by causal arrows forming a “partial ordering,” and is here generalized to include “loopy” causal sets (ordered graphs). We explore causal set global ordering properties and classification. Using a conductance model and a correspondence between causal sets and simple graphs, we consider the effect of nonlocality on the length of timelike paths. In particular, the Planck scale of time or distance (nominally 5.4×10^{-44} s or 1.6×10^{-35} m) may be dynamical in nature, becoming much greater depending on the system and its environment.

Please join us for light refreshments at 4:15pm outside SEB 203.