Emergent Spacetime from Generalized Free Fields

by

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ALL INTERESTED ARE WELCOME
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Abstract

Holographic duality refers to the correspondence between quantum gravity and quantum field theory with one less spatial dimension. One way to understand this duality is that spacetime geometry is an emergent property of certain strongly correlated many-body systems. In this paper, we propose a generic construction that obtains the bulk dynamics from a boundary generalized free field--a field that satisfies Wick theorem. Our approach generalizes previous results in holographic duality, and suggests that emergent spacetime can be defined for a much larger family of theories.

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