



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

SYK Models with Global Symmetry

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Date: Oct. 16, 2017

Time: 11.30 am

Venue: A-304, TIFR



In this talk, we will discuss the Sachdev-Ye-Kitaev model with global symmetry via the bi-local collective field theory. We derive the collective action for the SYK model with global symmetry, and we will study the large N expansion thereof. At the strong coupling limit, we will show that the global symmetry is enhanced to the local symmetry in addition to the emergent reparameterization symmetry. These emergent symmetries are spontaneously and explicitly broken, which leads to Schwarzian action plus an action for a particle on the group manifold as effective actions. We will also discuss various four point functions: the spectrum of the model from their OPE limit and the long time behaviors of the out-of-time-ordered correlators.