

Flowing from Tensor Field Theory to Tensor Models

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Fields with tensor degrees of freedom provide non-trivial but tractable QFT examples. Their perturbative expansion might (but does not need to) be interpreted as generating random geometries and they can be extended to models of quantum gravity in the spirit of tensorial group field theory. In the later case the tensor degrees of freedom propagate and contribute to the scale of the theory, in contrast to tensor model QFTs. In this talk we discuss how these two kind of theories can be dynamically connected via a renormalization group flow, thereby opening up the possibility that SYK-related tensor theories and random geometry models of quantum gravity are just different regimes of one and the same theory.

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