

## Renormalization in Tensorial Group Field Theories

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In this talk, I will review some recent results about the renormalization of Tensorial Group Field Theories. These theories are motivated by an approach to quantum gravity which lies at the crossroad of tensor models and loop quantum gravity. From the mathematical point of view, they are quantum field theories defined on compact Lie groups, with specific non-local interactions. Interestingly, these non-localities can be controlled and several models have now been proven perturbatively well-defined [1, 2, 3, 4, 5, 6]. I will focus on a  $SU(2)$  model inspired by Euclidean  $3d$  quantum gravity, which has been proven renormalizable at all orders with up to  $\phi^6$  interactions [6]. Time allowing, I will also present new results about the renormalization group flow of this model.

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