

Séminaire de matrices, cordes et géométries aléatoires

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Quantum Higher Spin Gravity and three-dimensional
bosonization duality

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Higher Spin Gravities are supposed to be minimalistic extensions of gravity that embed it into a quantum consistent theory. However, such minimality turns out to be in tension with the field theory approach, as well as with the numerous no-go theorems. We report on the recent progress in constructing Higher Spin Gravities and testing quantum effects therein. The same time, via AdS/CFT Higher Spin Gravities should be related to a variety of interesting three-dimensional CFT's from ABJ to the Ising model. These CFT's were conjectured to exhibit a number of remarkable dualities, in particular, the three-dimensional bosonization duality. We show how Higher Spin Gravity can be useful to prove the bosonization duality at least in the large N limit and make new predictions for the correlation functions.
