Département de Physique Théorique

THÉORIE DES CORDES

Sujet: **Virasoro coadjoint orbits of SYK/tensor-models & Emergent 2-D Quantum Gravity**

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Lieu: **Salle 234**

Date: **Mercredi 29 mars 2017**

Heure: **14h00**

Résumé:

In this talk I will talk about quantum gravity duals of certain one-dimensional quantum mechanical models. The features that make these models quite interesting are: emergent reparametrization invariance in IR limit; non-zero entropy at zero-temperature; and, chaotic behaviour in the long time limit of out-of-time ordered 4-point functions. These features strongly point towards the existence of a gravity dual. I will motivate why the Kirillov action on coadjoint orbits of Virasoro group (group of 1-dimensional reparametrizations) is a natural description of the modes corresponding to this emergent symmetry which is broken away from the IR fixed point. This action coincides with the 2-D quantum gravity action of Polyakov, which is our proposed dual for such models. I will discuss the evidence for this duality by computing the classical action, and thermal partition function on a certain class of near-AdS2 geometries.

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