



Contribution ID: 27

Type: **not specified**

## Universality of Squashed-Sphere Partition Functions

*Friday, 25 January 2019 11:15 (30 minutes)*

According to the AdS/CFT correspondence, Conformal Field Theories on squashed spheres are dual to AdS-Taub-NUT geometries in the bulk. By studying novel Taub-NUT solutions in a broad family of higher-curvature gravities, we are able to derive universal relations for the partition function of these CFTs. First, we propose a new formula that automatically computes the free energy in terms of the gravitational Lagrangian evaluated on AdS, and we check that it passes several consistency tests. Then, we use it to obtain new relations between the “small-squashing” expansion of the free energy and the coefficients of the 2- and 3-point functions, and we conjecture that these results hold for any CFT. As a corollary, we also conjecture a direct relation between the Lagrangian of a broad class of higher-curvature theories and the parameters of the 2- and 3-point functions of the dual CFT.

**Primary author:** CANO, Pablo

**Presenter:** CANO, Pablo