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# Nonlocal Cosmologies from the Chiral/conformal Anomaly Effective Action and Einstein-Gauss Bonnet

*Wednesday 20 December 2023 12:30 (30 minutes)*

Assuming a conformal phase of the early universe, we discuss the conformal backreaction, by studying the anomaly effective action around flat space and, in parallel, the anomaly induced actions (Fradkin-Vilkovisky and Riegert's actions) in curved space. Gravity is treated classically. Anomalies included take the form both of conformal (parity-even) and of chiral (parity-odd) contributions. Crucial, in these derivations, is the possibility of solving the conformal Ward identities using CFT methods in momentum space for correlators of many-gravitons. We show how the identities allow to reconstruct the action in a consistent way up to 4-point functions perturbatively. The method defines a powerful way to patch flat and curved spacetime derivations. In this framework dark energy is attributed to the trace anomaly.

## **Institution**

## **Designation**

## **Reference publication/preprint**

**Presenter:** CORIANO, Claudio (Unknown)

**Session Classification:** Plenary