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Theorie-Palaver

May 30, 2023 at 2 p.m.
Lorentz room (Staudingerweg 7, 5th floor)

Christian Ecker
Frankfurt U.

A dynamical inflaton coupled to strongly interacting matter

According to the inflationary theory of cosmology, most elementary particles in the current universe were created during a period of reheating after inflation. In this talk I will show how to self-consistently couple the Einstein-inflaton equations to a strongly coupled quantum field theory (QFT) that is described by holography. I will then use a specific example to demonstrate that this setup leads to an inflating universe, a reheating phase and finally a universe dominated by the QFT in thermal equilibrium. This talk is based on arXiv:2302.06618.

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