

Cosmic inflation without inflaton

Thursday 10 September 2020 11:54 (6 minutes)

During this talk I will present a novel proposal to explain cosmic inflation in the Universe with the following features: (i) its vacuum spectrum solely consists of a graviton and is ghost-free, (ii) it possesses well-behaved black hole solutions which coincide with those of Einsteinian cubic gravity, (iii) its cosmology is well-posed as an initial value problem and, most importantly, (iv) it entails a geometric mechanism triggering an inflationary period in the early universe (driven by radiation) with a graceful exit to a late-time cosmology arbitrarily close to Λ CDM. In the frame of these theories, we compute the inflationary predictions of the theory and we show that all models considered here produce inflation and, most of them coincide, some better than others, with the marginalized 95% CL region given by Planck's collaboration.

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