Inflationary dynamics at infinity

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Abstract

We investigate the dynamics of the inflationary phase of the Universe on a (massless) flat background. The theory consists of a quantum field theory and a classical theory of gravity coupled to a repulsive scalar field. We demonstrate that the energy divergence between the two theories is proportional to the cosmological constant, which is equal to the one between the two classical theories on a flat background. This implies that in a flat universe with a finite cosmological constant, the timelike evolution at infinity justifies the importance of a Newtonian mass term, which is used as a measure of the cosmological constant.

1 Introduction

In the context of the cosmological inflation, the theory of inflation is crucial for the theory of the universe. In this paper, we study the dynamics of the inflation on a flat background B of the vacuum. For this purpose, we consider an arbitrary B vacuum and consider the existence of a massless distortion of the curvature of the universe. The problem is that, in a flat universe with a finite cosmological constant, the gravitational potential is proportional to the cosmological constant. This would imply that the universe is compressed, but in fact it is a flat universe. This is a fundamental problem in the picture of inflation suggested by the cosmological constant.

In the next section, we discuss the dynamics of the inflation on a flat background of the curvature of the universe. We find that in a flat universe with a finite cosmological constant, the gravitational potential is proportional to the cosmological constant. This leads to the existence of a massless potential, which is used to measure the cosmological constant. In this section, we also show that a Newtonian gravity field is required for inflation, which leads to the existence of the massless potential. The solution of the problem is the geometrical form of inflation.

2 Geometrical expressions of inflation

A. A. van den Broeck, *Ref. [1] (2002), Ref. [2] (2002), Ref. [3] (2002), Ref. [3] (2002), Ref. [4]*

In the first section, we specify the physical structure of the spacetime. In Section 2, we show that the solution of the problem of inflation is a geometrical form of inflation. In Section 3, we show that the density of the universe will be found to be, in the case of a spherical universe, a sphere of radius $r_4 \times r_4$. In Section 4, we show that the cosmological constant will be $r^2 \rightarrow$