

NATURE OF CONFORMALLY COUPLED SCALAR FIELD IN COSMOLOGICAL MODELS

Mohammad Shyfur Rahman Chowdhury

Department of Business Administration, International Islamic University Chittagong

ABSTRACT

The cosmos appears to be expanding, according to recent measurements of supernovae and the cosmic microwave background. Gravitational scalar tensor theories produce cosmic models that logically incorporate a late-time fast expansion. In a different hypothesis, the stretch of the universe is produced using a scalar field (quintessence), much like the early inflation. In this study, we focus on a particular category of scalar field cosmological models. It has a quartic potential and a conformally connected scalar field. The cosmic dynamics are detailed, and the braking scale is assessed in the model. For the values of the scale, that are supplied, the expansion accelerates in the late stages.

KEYWORDS: *Cosmological Model, Deceleration, Scalar Field Parameter*

Article History

Received: 24 Sep 2022 | Revised: 07 Oct 2022 | Accepted: 12 Oct 2022
