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Exact Solution of Bianchi Type-V Model with Variable Cosmological Term-Λ and G

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Physics

By

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Dedication

The dedication of this work goes to the beloved persons whom that I won; my mother Nusra, father Nabeel, brothers Ahmed, Mohamed and Babikir, and my lonely only sister Nidal.

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Abstract

The homogeneous anisotropic Bianchi type$-V$ cosmological model with variable gravitational and cosmological constants is investigated. Exact solutions of the Einstein field equations are presented in terms of adjustable parameter of quantum field in a curved and expanding background. We found that the Cosmological constant decreases as time increases whereas the gravitational constants increases respectively. The universe in this model approaches isotropy state at late period of time. A clear presention for the physical and kinematical quantities of the model are also presented.