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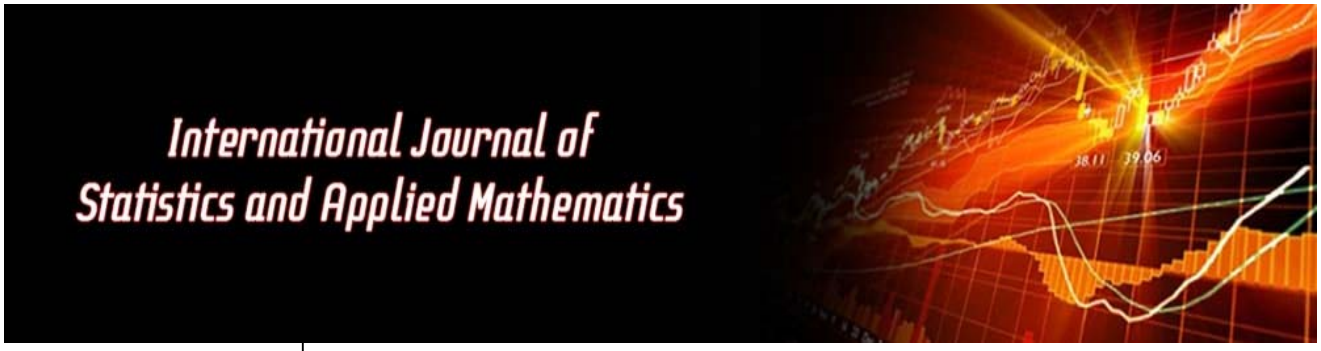

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A short survey on cosmology and their recent progress

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Abstract
Some survey of modern cosmology and the lessons to be learned from the successes and blind alleys of the past are described. In this survey paper, we collected the developmental history of cosmology theory. Some important results from beginning up to now are incorporated in this paper.

Keywords: short survey on cosmology, developmental history of cosmology theory

Introduction
In recent years for the study of the early universe, Cosmic strings have drawn substantial attention among researchers for various aspects. The string theory is useful concept before the creation of the particle in the universe. The string are nothing but the important topological stable defects due to the phase transition that occurs as the temperature lower below some critical temperature at the very early stages of the universe.

The present day configuration of the universe is not contradicted by the large scale network of strings in the early universe. Moreover, the galaxy formation can be explained by the density fluctuations of the vacuum strings. The general relativistic treatment of strings was obtained by Letelier and stachel. Leterlier has obtained the solution to Einstein's field equation for a cloud of strings with spherical plane and cylindrical symmetry. Then in 1983 he solved Einstein's field equation for a closed of massive strings and obtained cosmological model in Bianchi type I and Kantowski-sachs space times Bali*et al* Tikerkar and Patel and chakraborty and chakraborty 7 presented exact solution for the Bianchi III Cosmological models for string cloud. The string models have an important rule in cosmology, as strings are believed to have an important role during the early stage of the universe and can greate density fluctuations which lead to galaxy formation Bianchi type III string cosmological model with viscosity where the constant coefficient of bulk viscosity is considered. Recently Bali and Prathan have obtained formalism for studying the new inerrability of Bianchi type III massive strings cosmological models in general relativity. Wang has also discussed LRS Bianchi type I and Bianchi type III cosmological for a cloud string with bulk viscosity. Very recently, Rai and Pradhan have found the inerrability of cosmic string in Bianchi type III space time in presence of bulk viscous fluid by applying a new technique. Recently Tiwari and Sonia[14] investigated the non extinct of shear in Bianchi type III string cosmological models with bulk viscosity and time dependent Λ.

present universe is both spatially homogeneous and isotropic. The basic problem is cosmology is to find the cosmological models of universe and to compare the resulting models with the present day universe using astronomical data. In most treatments of Cosmology, Cosmic fluid is considered as perfect fluid. However, bulk viscosity is expected to play an important role at certain stages of an expanding universe. In the last few years of study of cosmic strings has attracted considerable interest as they are believed to paly an important role during early stages of the universe. The idea was that particles like the photon and the neutron could be regarded as waves on a string. The presence of strings in the early universe is a byproduct of Grant unified theories (GUT).

Bianchi type cosmological models are important in the sense that these models are homogeneous and an isotropic, from which the process of iso-tropization of the universe is studied through the passage of time. It is still a challenging problem before us to know the exact physical situation at very early stages of formation of our universe.

The string theory is useful concept before the creation of the particle in the universe. The string are nothing but the important topological stable defects due to the phase transition that occurs as the temperature lower below some critical temperature at the very early stages of the universe. The present day configurations of the universe are not contradicted by the large scale network of strings in the early universe. More over the galaxy formation can be explained by the density fluctuations the vacuum strings.

A. pradhan has presented massive string cosmology in Bianchi type III space time with electromagnetice field. A Pradhan and Amirhaschi H. Zainuddin have studied Dark energy model in an isotropic Bianchi type III space time with Variable EoS parameter. Amirhaschi H. Zainuddin studied Magnetized Bianchi in general relativity. Recently Rathore *et al*. investigated Bianchi type III string Cosmological models with bulk viscosity and Electromagnetic field. Bali and Jain have studied Bianchi type III non static magnetized cosmological model for perfect fluid distribution in general relativity. Lorenz has presented Title electromagnetic Bianchi type III cosmological solution. Tikekar and Patel obtained some exact solutions of massive string of Bianchi type III space time presence and absence of magnetic field, Adhav have obtained Bianchi type III magnetized wet dark fluid cosmological model in general relativity. Upadhya and Dave have investigated some magnetized Bianchi type III Massive string cosmological models in general relativity.

Theoretical Cosmology

Cosmology is the scientific study of large scale properties of the universe as a whole cosmology is study of the motion of crystalline objects. The origin of the universe is greatest cosmological mystery even today. The recent observations that $\Lambda \sim 10^{-55}\, cm^{-2}$ while the particle physics predication for Λ is greater than this value by a factor of order 10^{120}. It is still a challenging problem before us to know the exact physical situation at very early stages of the formation of our universe. The sting theory is a useful concept before the creation of the particle in the universe. The sting are noting but the important topological stable defects due to phase transition that occurs as the temperature lower below some critical temperature at the very early stages of the universe. Bianchi type models are important in the sense that there are homogenous and isotropic from which the process of isotropic is studied through the passage of time these models are tube known as suitable models of our universe, therefore study of Bianchi type models create much more interest.

The string cosmological models with magnetic field in homogenous and anisotropic Bianchi type I, models have been studied by number of researchers in different aspects. Bali has obtained Bianchi type I, III, IX string cosmological models in modified theory of relativity. Yadav. Has studied some Bianchi type I viscous fluid string cosmological model with magnetic field. Tripathi and Dubey have studied LRS Bianchi type I cosmological models with variable deceleration parameter. Bianchi type I universe is also studied with various matters the content of biometric theory of relativity by Deo and Sing, Deo and Roughe

In the last few years the study of cosmic strings has attracted considerable interest as they are believed to play an important role during early stayes of the universe. The idea was that particles like the photon and the neutron cloud be regarded as waves on a string. The presence of strings in the early universe is a byproduct of grant unified theories (GUT) The general relativistic treatment of cosmic strings has been originality given by Letelier. Cosmic strings plays an important role in structure formation in cosmology Bianchi type II models play an important role in current modern cosmology for simplification of the actual universe. Krori *et al*. and Chakraborty and Nandy have investigated Cosmological models for Bianchi type II, VIII and IX space times. Asseo and Sol emphasized the importance of Bianchi type II universe. Patel, Maharaj and Leach [11] have studied the integrability of cosmic string in the context of Bianchi type II, VIII, and IX space times. Bali *et al*. have investigated string cosmological in general relativity. Rao *et al*. studied exact Bianchi type II, VIII and IX string cosmological models in Saez – Ballester theory of Gravitation. Recently Wang Investigated the LRS Bianchi type III cosmological models for a cloud string with bulk viscosity. Singh and Agarwal studied Bianchi type II, VIII and IX models in scalar tensor theory under the assumption of a relationship between the cosmological constant and scalar field (ψ). Some cosmological solution of massive strings for Bianchi type I space time in presence and absence of magnetic- field have investigated by Banerjee *et al*. Roy and Banerjee dealt with LRS Cosmological models of Bianchi type III representing clouds of geometrical as well as massive string Wang has investigated and discussed LRS Bianchi type II space time. A Tyagi and Keerti investigated the Bianchi type II bulk viscous string cosmological models in general relativity. Tiwari and sonia investigated the non existence of shear in Bianchi type III string cosmological models with bulk viscosity and time dependents Λ term. In 1917 Einstein introduced the cosmological constant into his field equations in order to obtain a static cosmological model since his equations without the cosmological constant admitted only non static solution.

Cosmology is the scientific study of large scale properties of the universe as a whole cosmology is study of the motion of crystalline objects The origin of the universe is greatest cosmological mystery even today. The recent observations that $\Lambda \sim 10^{-55}\mathrm{Cm}^{-2}$ while the particle physics predication for Λ is the greater than this value by a factor of order 10^{120}. The present universe is both spatially homogeneous and isotropic. The basic problem in cosmology is to find the cosmological models of universe and to compare the resulting models with the present day universe using astronomical data. However bulk viscosity is expected to play an important role at certain stages of an expanding universe.

In the last few years the study of cosmic strings has attracted considerable interest as they are believed to play an, important role during early stages of the universe. The idea was that particles like the photon and the neutron could be regarded as waves on a string. The presence of strings of the early universe is a by product of Grant Unified theories (GUT) Roy and Banerjee have investigated some LRS Bianchi type II string cosmological models which represent geometrical and massive strings. Some cosmological solution of massive strings for Bianchi type I space time in presence and absence of magnetic field have investigated by Banerjee et. al. Bali *et al*. have a investigated Bianchi types I, V, IV string cosmological models in General relativity Wang has investigated and discussed some cosmological models and their physical implication in some Bianchi type space times. At the early stayes of the evolution of the universe, when radiation is in the form of photons as well as neutrino decoupled, the matter by haved like a viscous fluid. Bulk viscosity could arise in many circumstances and could lead to an effective mechanism of galaxy formation. Murphy constructed isotropic homogeneous spatially flat cosmological

model with a fluid containing bulk viscosity alone because the shear viscosity can not exist due to assumption of isotropy. He observed that the 'Big-Bang singularity of finite past may be avoided by introduction of bulk viscosity. Bali and Dave investigated the Bianchi type-III string cosmological model with bulk viscosity Recently Bali paradhan investigated the Bianchi type –III string cosmological model with time dependent bulk viscosity. Recent interest in the cosmological constant term Λ has received considerable attention among researchers for various concepts other researchers like Zeldovich, Bertolumi, Ozer and Taha, Weinberg, Carroll *et al*. Calberg *et al*., Friemann and Waga Pradhan *et al*. Investigated more significant cosmological models with Cosmological constant Λ in this paper Bianchi type III Bulk viscous string cosmological model shear free and time dependent cosmological constant in modified general relativity.

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