Theories about origin of earth

The Theory of God

Well, the first and most popular alterative to the Big Bang is that God created the universe. Christians believe that He created the world is 6 days, and used one extra for rest. This theory isn't proven scientifically but people believe it out of faith. That is basically, just believing. This concept can be a little hard to grasp by some but they have to accept that their is no proof, just trust.

The String Theory

This theory was put forward by Evgeny Buchbinde and basically suggests that the universe is made of membranes which are actually three dimensional worlds. Also, they say that our universe is just a 3D membrane moving through a massive 4D background. It's named 'The Bulk'. Since they can move, they colide. And when they do, they release a big blast of energy similar to the big bang.

The Steady State Theory

This theory was proposed by 3 scientists, H. Bondi, Fred Hoyle and Thomas Gold. They believe that although the universe is growing, it's not changing appearance because new matter is formed to keep it's density equal. There were holes found later on because it was discovered that '

Now this is a very weird theory that Julian Barbour published. He proposed that there's no need to find out how time began because time doesn't exist! This is something that hasn't been explored in detail very much before, so the question is, does time really exist?

Big Bang Theory

Etymology

English astronomer Fred Hoyle is credited with coining the term "Big Bang" during a 1949 BBC radio broadcast, saying: "These theories were based on the hypothesis that

all the matter in the universe was created in one big bang at a particular time in the remote past."

It is popularly reported that Hoyle, who favored an alternative "steady state" cosmological model, intended this to be pejorative,but Hoyle explicitly denied this and said it was just a striking image meant to highlight the difference between the two models.

Big Bang

The Big Bang theory is the prevailing cosmological model for the universe from the earliest known periods through its subsequent large-scale evolution. The model describes how the universe expanded from a very high density and high temperature state, and offers a comprehensive explanation for a broad range of phenomena, including the abundance of light elements, the cosmic microwave background (CMB), large scale structure and Hubble's law. If the known laws of physics are extrapolated to the highest density regime, the result is a singularity which is typically associated with the Big Bang. Physicists are undecided whether this means the universe began from a singularity, or that current knowledge is insufficient to describe the universe at that time. Detailed measurements of the expansion rate of the universe place the Big Bang at around 13.8 billion years ago, which is thus considered the age of the universe. After the initial expansion, the universe cooled sufficiently to allow the formation of subatomic particles, and later simple atoms. Giant clouds of these primordial elements later coalesced through gravity in halos of dark matter, eventually forming the stars and galaxies visible today.

In the standard theory, space and time and all the matter and energy in the universe were formed in the Big Bang some 10 to 15 billion years ago. The conditions in the rapidly expanding and cooling universe following the Big Bang were such that only simple matter was formed. The universe was filled with hydrogen (H) and small amounts of helium (He). As the universe expanded, galaxies formed in areas of higher concentrations of H and He and stars formed within the galaxies in areas of highest concentrations of H and He.

This time Hydrogen was 98% and Helium was2%.

Stages

Singularity

Near 1500 billion year ago.

This primordial singularity is itself sometimes called "the Big Bang",[15] but the term can also refer to a more generic early hot, dense phase of the universe. In either case, "the Big Bang" as an event is also colloquially referred to as the "birth" of our universe since it represents the point in history where the universe can be verified to have entered into a regime where the laws of physics as we understand them (specifically general relativity and the standard model of particle physics) work

Despite being extremely dense at this time—far denser than is usually required to form a black hole—the universe did not re-collapse into a black hole. This may be explained by considering that commonly-used calculations and limits for gravitational collapse are usually based upon objects of relatively constant size, such as stars, and do not apply to rapidly expanding space such as the Big Bang.

Inflation and baryogenesis

The earliest phases of the Big Bang are subject to much speculation. In the most common models the universe was filled homogeneously and isotropically with a very high energy density and huge temperatures and pressures and was very rapidly expanding and cooling. Approximately 10^{-37} seconds into the expansion, a phase transition caused a cosmic inflation, during which the universe grew exponentially during which time density fluctuations that occurred because of the uncertainty principle were amplified into the seeds that would later form the large-scale structure of the universe.[18] After inflation stopped, reheating occurred until the universe obtained the temperatures required for the production of a quark–gluon plasma as well as all other elementary particles.

Cooling

Panoramic view of the entire near-infrared sky reveals the distribution of galaxies beyond the Milky Way. Galaxies are color-coded by redshift.The universe continued to decrease in density and fall in temperature, hence the typical energy of each particle was decreasing. This occur After one billion of that big bang.

Structure formation

Over a long period of time, the slightly denser regions of the nearly uniformly distributed matter gravitationally attracted nearby matter and thus grew even denser, forming gas clouds, stars, galaxies, and the other astronomical structures observable today.[5] The details of this process depend on the amount and type of matter in the universe. The four possible types of matter are known as cold dark matter, warm dark matter, hot dark matter, and baryonic matter.And also our solar system developed threre.

Our Solar System

Sun(in the centre)

Planets(Large Bodies)

and their moons

Comets(ice bodies)

Astroid(small bodies)

The Big Bang Theory

The four theories of the universe. But the big bang theory is the most popular theory of the universe.

1. Evolutionary Theory 2. Steady State Theory3. Solar Nobel Theory 4. Big Bang Theory

Big Bang Theory

The Big Bang Theory is the leading explanation about how the universe began. At its simplest, it says the universe as we know it started with a small singularity, then inflated over the next 13.8 billion years to the cosmos that we know today.Because current instruments don't allow astronomers to peer back at the universe's birth, much of what we understand about the Big Bang Theory comes from mathematical formulas and models. Astronomers can, however, see the "echo" of the expansion the majority of the astronomical community accepts the theory, there are some theorists who have alternative explanations besides the Big Bang — such as eternal inflation or an oscillating universe

Stages Of Big Bang Theory

1. **Singularity**
2. **Cooling**
3. **Structure Formulation**

1.Singularity

Near 1500 billion year ago.This primordial singularity is itself sometimes called the Big Bang, but the term can also referred to more generic early hot dense phase of the universe. In either case the Big Bang as an event is colloquially referred to as the birth of our universe since it represents the

point in history where universe can be verified to have entered into a regime where the laws of physics as we understand them.Despite being extremely dense at this time far denser than is usually required to from a black hole the universe did not re-collapse into a black hole. This may be explained by considering that commonly used calculations and limits for gravitational collapse are usually based upon objects of relatively constant size such as stars and do not apply to rapidly expanding space such as the Bing Bang.

2.Cooling Function

Panoramic view of the entire near infrared sky reveals the distribution of galaxies beyond the Milky Way.Galaxies are color coded by redshift. The universe continued to decreasing. This occur after one billion of that Big Bang.

3.Structure Formulation

Over a long period of time the slightly denser regions of the nearly uniformly distributed matter gravitationally attracted nearby matter and thus grew even denser forming gas clouds, stars, galaxies, and the astronomical structure observable today. The details of this process depend on the amount and types of matter in the universe.

Solar system and Galaxy

Our solar system is system of planets and other objects that orbit our sun.There are eight planets and many moons along with asteroids,comets,meteoroids and tiny particles of rocks and dust.The sun which is actually a star is largest object in solar system and hold everything in place by its gravity.It contains about 99% of mass of solar system.

Composition of Solar system

- Sun: 99.85%
- Planets: 0.135%
- Comets: 0.01%
- Satellites: 0.00005%
- MinorPlanets: 0.0000002%
- Meteoroids: 0.0000001%

Galaxy

A galaxy is a massive, gravitationally bound system consisting of stars, stellar remnants, an interstellar medium of gas and dust and dark matter. The word galaxy is derived from the Greek word 'galaxias', which literally means "milky". It is used as areference to the Milky Way.Galaxies contain varying numbers of planets, star systems, star clusters and types of interstellar clouds. In between these objects is a thin interstellar medium of gas, dust, and cosmic rays. They usually have a massive black hole at its centre. They also consist of dark matter. Dark matter is basically a type of matter which has gravitational effects that have been detected. The dark matter however cannot be visibly seen because it does not emit any radiation. It is considered that there are some active galactic nuclei found at the core of some galaxies. The Milky Way galaxy is known to harbor at least one such object.

Our Solar System

Sun(in the center)
Planets(Large Bodies)
And Their Moon
Comets(Ice bodies)
Asteroids(Small bodies)

The PlanetsThe three types of the planets.

1 .Inner Planets

2 .Outer Planets

3 .Outer Most Planets

Inner planets

Mercury:

- Size :About1/3 as wide as Earth
- Number of moons:0
- Temperature: -279F to 800 F

Venus:

- Size:Almost as big as a Earth
- Number of moons:0
- Temperature:890F. Venus very hot

Earth:

- Size:7929 miles
- Number of moons:1
- Temperature: -130 F to 136F

Temperature is great for life

Mars:

- Size:About half as big as Earth
- Number of moon:2
- Temperature: -266 F to -62F.

Mars is pretty cold place.

outer

[redacted] planets

Jupiter:

- Size:About 11 Earth across
- Number of moons:60
- Temperature: -278F so Jupiter is really cold.

Saturan:

- Size:Biggerthen 9 Earth across
- Number of moon:31
- Temperature: -292F.It is also cold

Uranus:

- Size:Uranus is about 4 Earth across
- Number of moon:21
- Temperature: -346F.Uranus is super cold.

Naptune:

- Size:4 Earth across.
- Number of moon:11
- Temperature: -353F.So Naptune is super cold

Outer Most Planet

Pluto

[redacted]

Title

Internal Structure of Earth

Introduction

As we all know that earth is planets where human being can survive, due to the existence of earth atmosphere, which is most suitable for the sustenance of life. In order to understand plate tectonics, it is essential to know about Earth's interior.

Earth is composed of several layers. By various studies it has come to notice that the Earth's structure is like a fruit with a large pit inside like in a peach or plum. If we cut a fruit into half we will see it is composed of 3 parts.

- A very thing crust on the outside.
- Most of the mass of the earth contained in mantle.
- A core of significant size in the center.

1. The Earth's Crust (Lithosphere)

This is the outermost parts of the earth. It consist of silica and aluminum. If forms the upper layer of the continent and is mostly composed of granite rock. The crust divided into two parts.

The Continental crust & Oceanic crust.

- **The Continental Crust**

Its thickness is 25 to 60 km under continents. The crust is quite complex in structure and made from many different types of rocks like granite.

- **The oceanic Crust**

The oceanic Crust that underlies the ocean basins which various in thickness from 4to 6 km under the ocean. This layers consist of primarily of basalt.

2. Earth's Mantle (Mesosphere)

This is the layers below the crust. It is composed of Iron and Manganese. It lies between the crust and the core. The mantle is made up of very dense and hot igneous rocks, found in semi liquid states. It extends downwards2900km and the temperature ranges between 5000°C to 7000°C. Temperature of s mantle varies at different depths. The temperature is lowest immediately beneath the crust and increase with depths. This steady increase in temperature with depth is known as **Geothermal Gradient.**