

The Future of Universe

Started 13.8 billion years ago after the Big Bang, our universe is moving towards its end. ~~Big Bang~~ It started as a really hot and dense state and it is expanding and cooling since then.

There are multiple theories about the future of the universe, details are given below.

1 - The Big Freeze / Heat Death

According to NASA, the universe is expanding ever since its birth. Approximately a trillion years later, it would have expanded so much that no galaxy would be seen from another galaxy. This state is known as "Galactic Isolation". As a result of expansion, new stars formation would cease, black holes would become dominant part of the universe. Therefore the end would be a "cold dark" universe.

2. The Big Crunch

This presents the idea opposite to that of the Big Freeze. According to this theory, the universe's ~~is~~ continuously contracting expansion would reverse. ~~It is~~ This model suggests that the end of the universe would occur in opposite order of Big Bang. Expansion would stop gravitational

force would dominate the expansion and therefore it would start contracting - Everything would contract towards the center of the universe and would return to its very initial state of singularity.

The Big Bounce:

This hypothetical cosmological model / Theory presents the idea that the universe goes through cycles of expansion and contraction. It expands and then contracts to its original state and then expands again. This cycle continues and universe will always remain ~~expand~~ in this cycle.

The Big Rip

This theory describes the ultimate fate of the universe as the point where expansion would accelerate to the extent that everything tears apart, all bound structures including galaxies, stars, planets and eventually atoms.

Conclusion

The scenarios presented in the Big Bounce and the Big Crunch are also possible, but based on the current observation of the expansion of universe, the "Big Freeze / Heat Death" is the most widely accepted theory.