



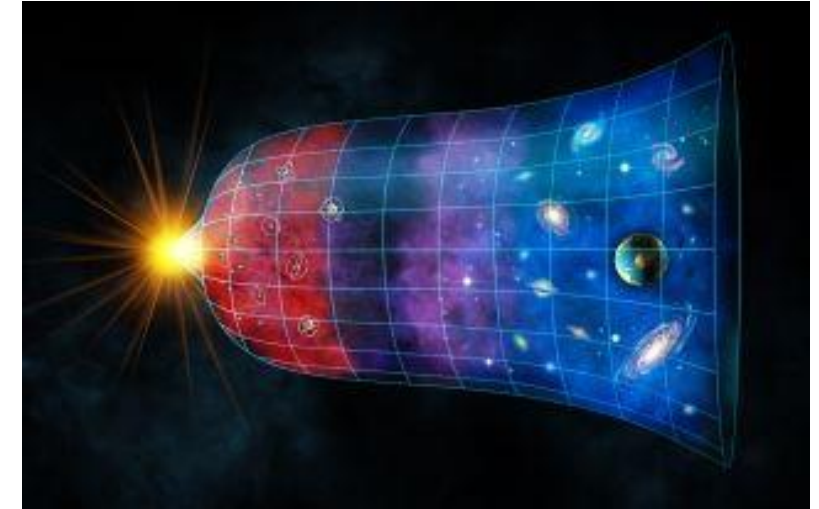
HUBBLE CONSTANT

Central Idea

- Researchers from India and the US have come up with a new way to answer a big question about the universe.
- This question is about how fast the universe is getting bigger.

Story of Our Universe

- The universe began around 13.8 billion years ago with a massive explosion called the Big Bang.
- As time passed, the universe kept getting bigger, with moments of speeding up and slowing down.
- Scientists want to understand this expansion to figure out what's happening in the universe.



Hubble Constant: A Big Question

- The Hubble constant is a special number that tells us how quickly the universe is expanding.
- This number was first talked about by a scientist named Edwin Hubble in 1929.
- But scientists today are still not sure about its value.
- Two Important Things to Measure
 - To know the Hubble constant, we need to measure two things carefully:
 - How far away things in space are from us.
 - How fast these things are moving away from us because of the universe's expansion.

Old Ways vs. New Idea



Until now, scientists used a few methods to measure the Hubble constant:

- Looking at bright explosions in space called supernovae.
- Using special light from the early universe.
- Studying waves created by big crashes in space.
- But now, a fresh idea has been propounded by Indian researchers:

To measure using a thing called "gravitational lensing."

Gravitational Lensing: A New Approach

- Gravitational lensing is like bending light using gravity. Imagine it like a magnifying glass in space.
- This idea came from a long time ago but got better recently.
- Scientists think they can use this lensing trick to measure the Hubble constant.
- They want to look at waves from space collisions that get bent by gravity.
- These bent waves could tell us about how fast the universe is expanding.

The Big Idea: A Bridge between Time

- This new idea is cool because it connects different times in the universe's history.
- It could give us a good answer about the Hubble constant.

Challenges and What's Next

- While this idea is exciting, there are some challenges to solve:
- Making sure the signals are clear enough to measure.
- Using the new method to answer other questions too.
- If this new way works, it could help us learn about things like dark matter and other universe stuff.