

Cosmic microwave background

QUANTUM GEOMETRY

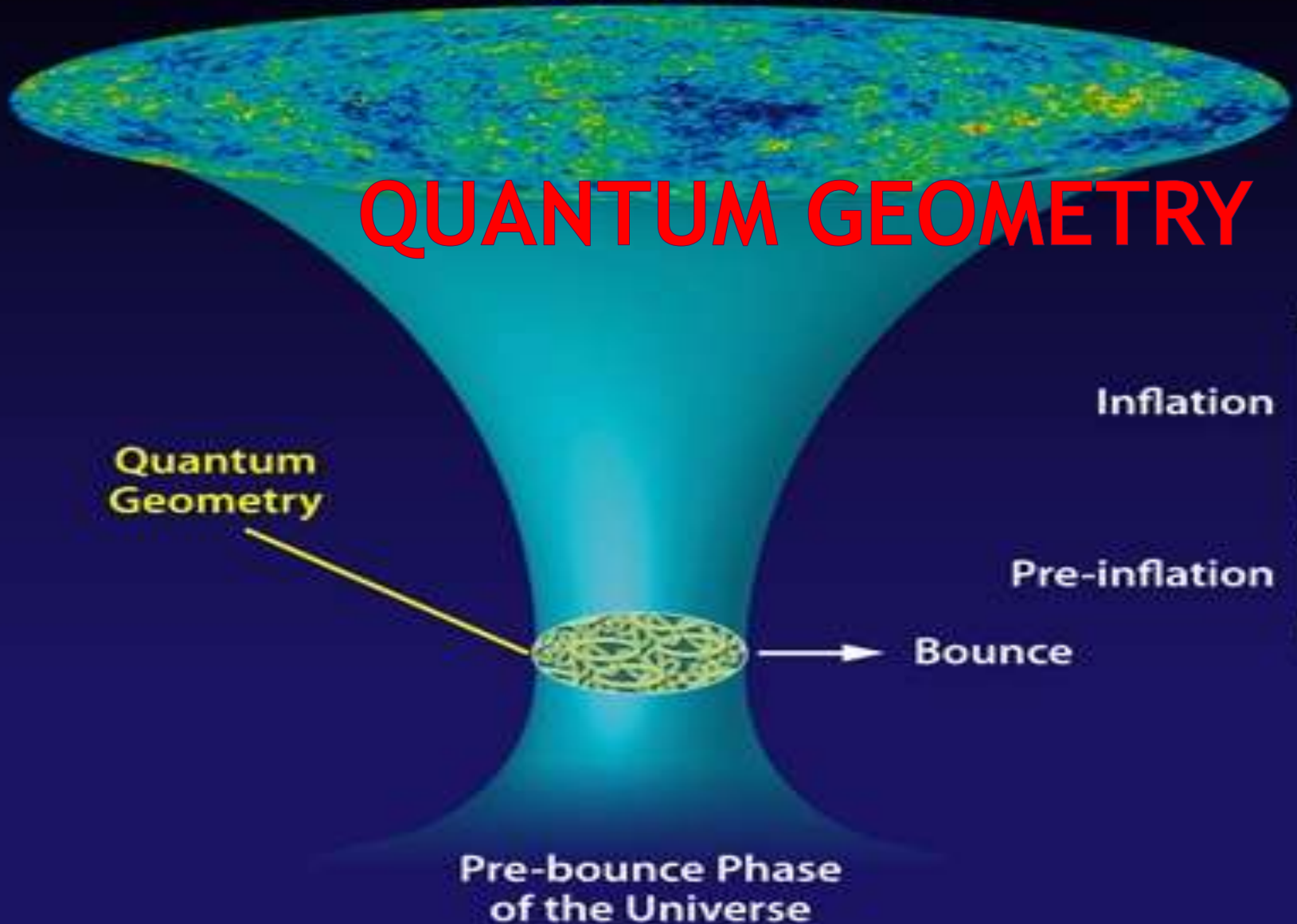
Quantum
Geometry

Inflation

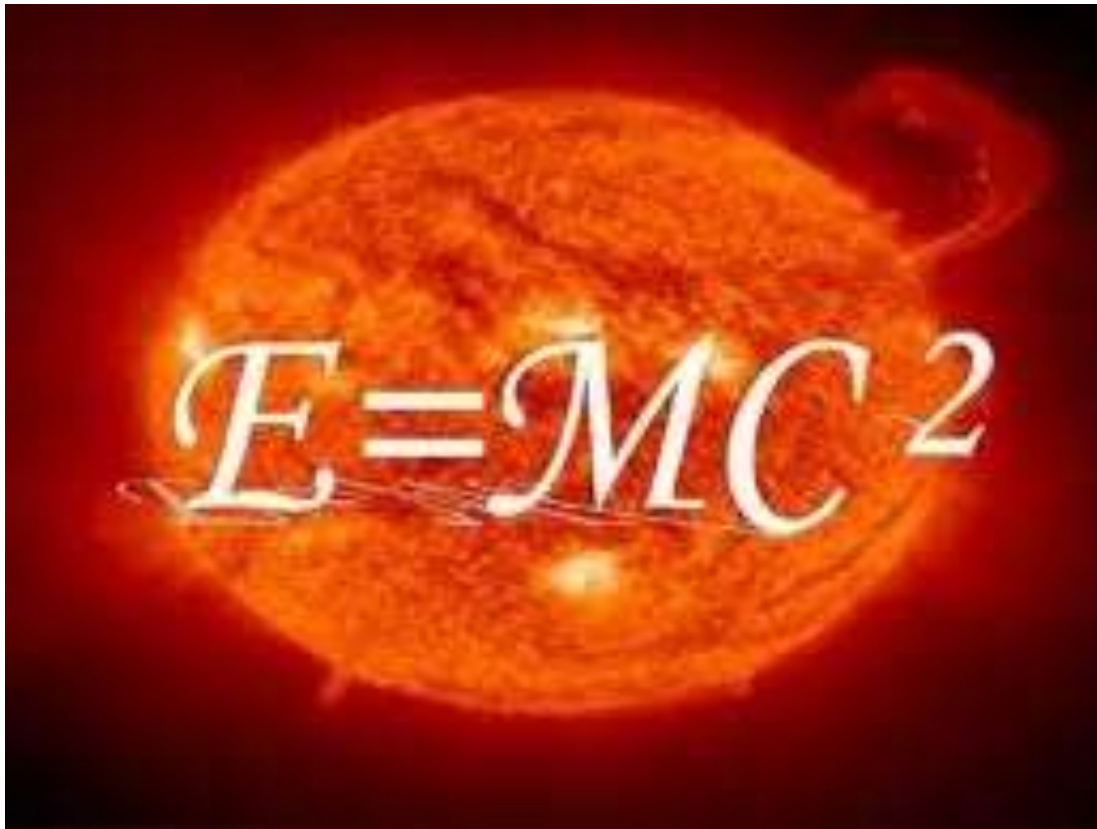
Pre-inflation

Bounce

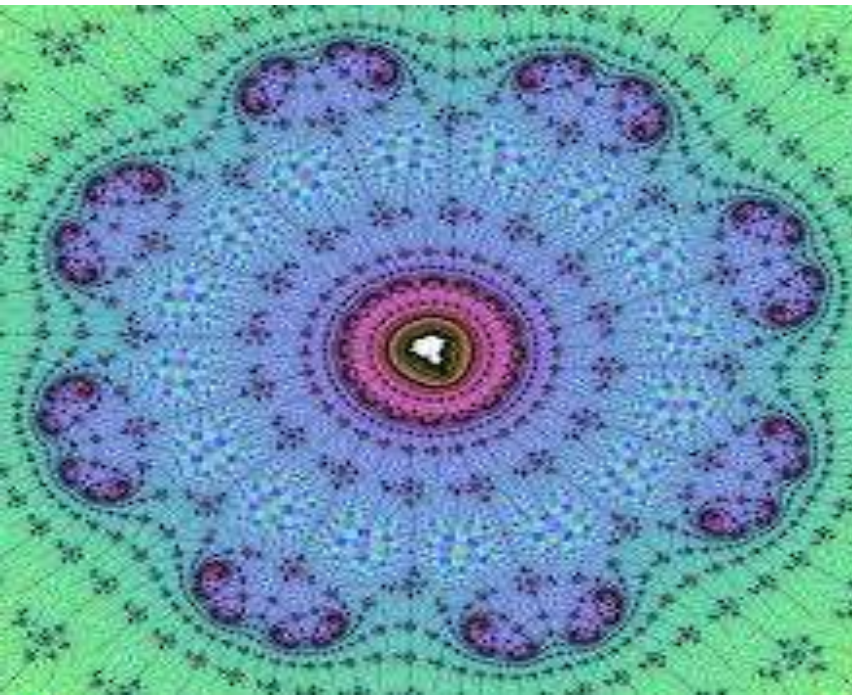
Pre-bounce Phase
of the Universe



- ⦿ Quantum geometry is a new branch of mathematics.
- ⦿ It introduces a completely new concept of space.
- ⦿ It incorporates into geometry various ideas from quantum physics.

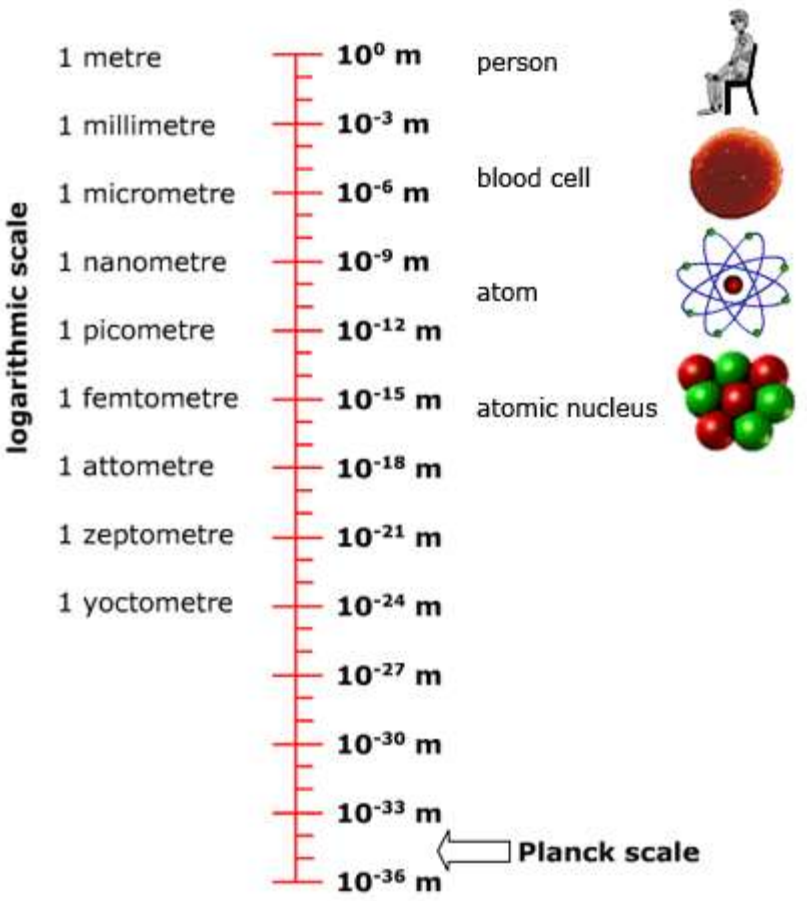


- ⦿ Every geometry deals with some kind of spaces.
- ⦿ Quantum geometry deals with quantum spaces.
- ⦿ It also includes the classical concept of space as a very special case.

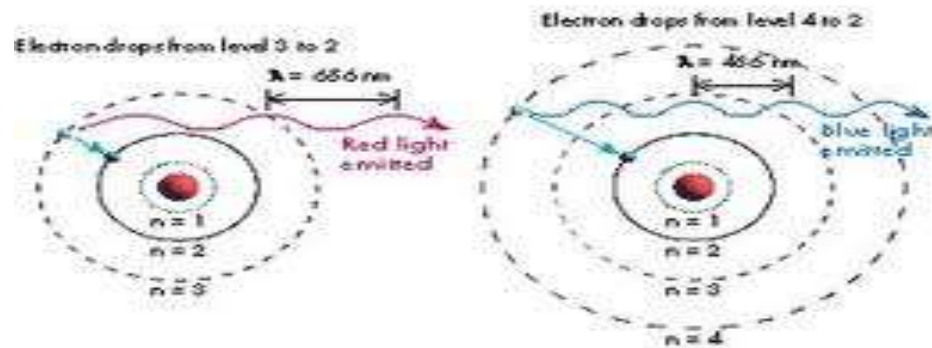


- At the level of ultra-small, distances is characterized by the Planck length.
- This length is a universal physical constant.

- It is defined as a unique combination of,
 - gravitational constant ,
 - Planck's constant
 - and the velocity of light c .



- There are many reasons to believe that Planck's length marks a boundary for the applicability of classical concepts of space and time in physics.



- ◉ Quantum geometry introduces much more flexibility in the game.
- ◉ It allows us to express the idea that the space-time exhibits certain quantum.
- ◉ In particular, the very concept of a space-time point is losing the sense at the quantum level.
- ◉ The same applies to the space-time coordinates.



- ⦿ The possible game rule by quantum geometry, can be from nano technology because it reflects quantum behaviour.
- ⦿ It represents a desing art. By this way new materials and technics can be possible . Moreover, it has been since last decade.

