

## The Great Creation Event?

*This means the Big Bang Event might happen in our mathematics,  
but we have no observations that can tell us it happened in reality.*  
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Most cosmologists believe that the Big Bang theory, inspired by Einstein's theory of General Relativity, best explains the origin and existence of the Universe. It states that the Universe expanded from a singularity and that this expansion occurred rapidly over to the current Universe and is still occurring.

Edvin Hubble's observation (in about 1929) supported the expanding Universe and provided the foundation for the Big Bang theory. He found that galaxies are receding from Earth (and each other) and that the wavelength redshift of their light is proportional to their distance from the Earth. These findings are incorporated into the Hubble law<sup>1</sup> which is only applicable to the nearby galaxies<sup>2</sup>.

In the previous communication [1], we considered a nearby galaxy moving at a true speed  $v$ .<sup>3</sup> This speed of all nearby galaxies is probably far less than the speed of light  $c$  (about  $3 \times 10^8$  m sec<sup>-1</sup>).

The time difference of Special Relativity (SR)<sup>4</sup> between Earth and these galaxies is

$$\Delta t = t_0[1/\sqrt{1 - v^2/c^2} - 1] \quad \dots (1)$$

where  $t$  is the time interval measured on this galaxy,  $t_0$  is the time measured on Earth and  $1/\sqrt{1 - v^2/c^2}$  is the Lorentz/Einstein  $\gamma$  factor.

In our previous communication, we neglect a cosmic time dilation of the nearby galaxies driven by the expansion of the Universe. We did it because it is only observationally confirmed for the distant galaxies.

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<sup>1</sup> Further details about this law may be found in many standard astronomical textbooks and related publications.

<sup>2</sup> In general, we now define nearby galaxies as those galaxies whose redshift  $z$  is from 0.001 to 0.1 (or  $0.001 \leq z \leq 0.1$ ) and distant galaxies are those having  $z > 0.1$ . Of course, there is no sharp boundary between nearby and distant galaxies [1].

<sup>3</sup> In general, we define true speed as the average speed of a nearby (or a distant galaxy) through space relative to the present-day Earth, which is unrelated to the universe's expansion. It is probably far less than the speed of light.

<sup>4</sup> Or the SR time dilation.

According to the Theory of General Relativity, time would run slower for them by a factor  $(1 + z)$ , where  $z$  is their observed redshift. In expression form

$$\delta t = t_0/[1 + z) \dots (2).$$

In other words, the total cosmic time dilation of the nearby galaxies,  $\tau$ , consists of the time dilation of Special relativity  $\Delta t$  and the time dilation of General relativity or  $\tau = \Delta t + \delta t$ . A simple mathematical analysis of this equation shows that  $\delta t$  is always greater than  $\Delta t$  (or  $\delta t > \Delta t$ ), except for  $z = 0$  when  $\Delta t = \delta t = 0$ .

A good approximation for the nearby galaxies is that  $\Delta t \approx \delta t$  or  $\tau \approx 2\Delta t \approx 2\delta t$ . This approximation does not affect the substance of the statements for the nearby galaxies derived from eqn. (1) and presented in our previous communication [2]. These statements are:

- (1) the time of the nearby galaxies runs slower than on Earth, although their true speed is far less than the speed of light;
- (2) each of the nearby galaxies exists in the very near past with respect to the Earth and the Earth exists in the very near future with respect to them and *vice versa*;
- (3) eqn. (1) implies that the nearby galaxies are in their local universe even if their true speed is infinitely less than the speed of light. The Earth also exists in its local universe (in the current Universe, in the present-time Universe). Before the present time, the Earth existed in our Universe of the past; and,
- (4) eqn. (1) also implies that numerous galaxies of our Universe could have formed at the seemingly same cosmic time as Earth<sup>5</sup>, but not necessarily in the same position. These galaxies could be timely seemingly non-distant but spacely distant.

The last statement opens up some intriguing possibilities. The most intriguing one is that all of the galaxies of our Universe could be born at about the same time as the Earth. Or there was no Big Bang event but the Great Creation (GC) event when the primeval Universe (with all these galaxies) and Earth were about formed. This accords with the opening verse of the first chapter of the Book of Genesis: In the beginning, God created the heavens and the Earth. This verse could be interpreted that the primordial universe and Earth were created at or about the same time.<sup>6</sup> However, the Bible does not state when this universe was created and when afterward the Earth was created. Indeed, many biblical scholars believe that the Universe and the Earth were not created at the same time. This is still a debatable issue between them. After this GC event, the universe expanded/developed into our Universe, forming some new galaxies, the present-day Earth, life and humanity.

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<sup>5</sup> The best estimate of the age of the Earth (and the rest of the Solar system) is  $4.55 \pm 0.05$  Gyr. This value is derived from several different lines of evidence.

<sup>6</sup> Some biblical and other scholars reason this verse states that God created time ("in the beginning"), space ("the heavens"), and energy/matter ("Earth").

According to Soberman and Dubin [3], the Big Bang is supported by only two experimental observations, the cosmological redshift and the cosmic microwave background (CMB) radiation. Cosmological expansion and the associated redshift of the above GC model of the Universe can be explained as follows. After He created the primordial universe God stretched out the heavens (the primordial universe) like “a tent” (cosmological expansion) into the present-day Universe and we now readily observe the cosmological redshift.

An explanation of CMB radiation within the framework of the above hypothesis is also possible. Verse 1:3 of Genesis tells us: And God said, “Let there be light,” and there was light”. It is generally believed that this light was a primordial light, different from “ordinary” light of the Sun, other stars,... We reason this light is the CMB light and we contemplate He wrapped himself into this light (Bible, Psalm 104).

Cosmologists believe that our Universe is about 13.8 Gy old (or 26.7 Gy old?) and that our Milky Way galaxy is approximately 13.6 Gy old. All galaxies around the Milky Way at that time likely moved at the true speed much less than the speed of light. These galaxies could be born at about the same time as our Galaxy but at different distances from it. In other words, the GC event could then have taken place at that time. We could also have chosen the birth of any of the galaxies born before or after the Milky Way (or the birth of any of their stars or planets) to be the GC event.

However, numerous biblical scholars argue that the Universe and Earth were created about 6,000 years ago. Therefore, it is even possible that the GC event occurred about that time. Thus, we are faced with the uncertainty of when it could have happened in the cosmic past.

It is believed that there are between 6 and 20 trillion galaxies in the Universe. Each of these galaxies has, on average, about 100 billion stars and as many as planets. In total, it means between 1.2 and 40 quadrillion possible GC events. We reason that such a possible high number of these occurrences would imply a non-expanding (probably Euclidian) model of the Universe. It would be unlimited in both space and time with no singular beginning. It is also possible that many of its galaxies could be much older than about 13.8 Gy. Indeed, Lerner [4], and references therein] reported that the ultraviolet surface brightness data of galaxies, over a very wide redshift range, are in agreement with the hypotheses of the non-expanding (Euclidean) model of the Universe.

We can now rephrase Sabine Hossenfelder: *This means the Great Creation Event might happen in our simple mathematics, but we have no observations that can tell us it happened in reality.*

## References

- [1] P. I. Premović, *Nearby and distant galaxies: a brief note*. The General Science Journal, August 2024.
- [2] P. I. Premović, *Special Relativity, nearby galaxy and its local universe*. The General Science Journal, December 2008.
- [3] R. K. Soberman, M. Dubin, *Was there a Big Bang?* arXiv:0803.3604 [physics.gen-ph].
- [4] E. J. Lerner, *Observations contradict galaxy size and surface brightness predictions that are based on the expanding universe hypothesis*. Monthly notices the Royal Astron. Soc. (MNRAS) 477, 3185-3196 (2018).