The Physical Time in Positive Direction is Associated with Matters only Whereas the Physical Time in Negative Direction is Associated with Anti – Matters.

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Abstract. The physical time reverses its direction when switched to either side of the speed of light. The physical time is a scalar quantity at the speed of light. The physical time is just a number at the speed of light. Thus, no evolution (changes in matters) occurs at the speed of light. It is as if time is stagnant without any change at the speed of light. But time is a vector quantity below or above the speed of light. The time is a forward (say positive) vector for matters as the speed of matters is always below the speed of light. The time is a reverse (say negative) vector for anti – matters as the speed of anti – matters is always above the speed of light. A forward vector or positive vector means the physical time flows from past to present to future. And the physical time is a reverse vector or negative vector means the physical time flows from future to present to past. Both the forward vector and reverse vector are separated by the Time Constant or Temporal Gap (a scalar quantity of time which is a number just at the speed of light). Because of the Time Constant we never meet our anti – selves. We are separated permanently by the Temporal Gap. The same analysis can be explained in terms of gravity. Gravity is attractive, thus all matters clumps together in a particular place which is our Universe. Because the gravity between matters and anti – matters is repulsive, matters and anti – matters permanently secluded to form another Universe for anti – selves. Thus, parallel Universes do exist. And anti – gravity is attractive too (the gravity between two anti – matters).

1. Introduction
The physical time is a scalar quantity just at the speed of light. This can be termed as Time Constant or Temporal Gap. It is the minimum temporal distance between matters and anti – matters. Thus, naturally matters and anti – matters are separated by Time Constant or Temporal Gap permanently. Thus, we can never meet with an anti – selves naturally. But time is a forward (say positive) vector for matters [1, 2] below the speed of light. Because we travel always below the speed of light [3, 4], we always have a forward time vector (positive time vector) which moves from past to present to future [5, 6]. Time is a reverse (say negative) time vector for anti – matters above the speed of light. Because time moves above the speed of light, anti – matters always have reverse time vector (negative time vector) which means that time moves from future to present to past. Speed is relative to observer (whether observer is made of matter or anti – matter). The speed of particle or anti – particle crosses the speed of light when observer made of opposite matters only. The speed is also observer dependent realism only. The speed below or above the speed of light depends on observer whether he is made of matters or anti – matters.
Figure 1. The speed versus time in forward direction

Figure 2. Temporal flow on Earth for our Universe (for observers made of matters)

Figure 3. Temporal flow on Earth for our Universe (for observers made of Anti - matters)
A Feynman diagram is actually a pictorial representation that expresses what actually happens when elementary particles such as electrons or positrons collide with each other. A Feynman diagrams basically are used extensively in quantum mechanics. A Feynman diagram is lines in different shapes – like straight lines, dotted lines and squiggly shapes – that meet up at some points called vertices. Here below, it represents some of the Feynman diagrams.
Figure 7. Electron and positron collision for observers made of anti – particle

![Electron and positron collision for anti-particle observers](image)

Figure 8. Electron and positron collision for observers made of bosons

![Electron and positron collision for bosons](image)

2. Charge Symmetry: for matters and anti – matters

How we see atoms in our Universe, the observers made of anti – particle see exactly the same way for their anti – universe. The following example is a pictorial representation of how an atom looks like when observers are made of particles and observers made of anti – particles.

![Negative electrons and positively charged nucleus](image)

Figure 9. The observers made of matters see atoms of our Universe
Figure 10. The observers made of matters see anti – atoms of anti – Universe

Figure 11. The observers made of anti – matters see atoms of our Universe

Figure 12. The observers made of anti – matters see anti – atoms of anti – Universe
3. Space – time for matters and anti – matters
The space – time get reversed for matters and anti – matters [7, 8]. Observers made of particles see space – time positively curved and observers made of anti – particles see space – time negatively curved [9, 10]. Shown below the pictorial representation of space – time for observers made of particles and anti – particles [11, 12].

![Space – time curvature for particle (positive)](image1)

![Space – time curvature for anti-particle (negative)](image2)

**Figure 13.** The observers made of matters see space – time

![Space – time curvature for anti-particle (positive)](image3)

![Space – time curvature for particle (negative)](image4)

**Figure 14.** The observers made of anti – matters see space – time

4. Why we do not get anti – matter
There is always a time gap between matter and anti – matter, it is called time of reference (it can be termed as Time Constant or Temporal Gap). Time Constant does not allow self to recombine with the anti – self. What is the effect of Temporal Gap on gravity [13, 14]? Gravity is attractive, thus, matters clump together [15, 16]. Anti – gravity (the gravity between anti – matters) is also attractive and anti – matters also clump together. But the gravity between matters and anti – matters are repulsive. This is the reason all anti – matters flown away from us although there is as much anti – matter as matter. All anti – matters are flown away from us at a speed more than the speed of light because we are the observers made of matters. That is why we can observe the speed of anti – matter higher the speed of light. And that is the reason why, we do not get any anti – matters around [17].
5. Conclusion
The physical time can be a scalar, a forward time vector (positive time vector) or a reverse time vector (negative time vector). We can never meet our anti – selves because of the Time Constant or Temporal Gap between matter and anti – matter. Forward time vector goes from past to present to future. The reverse time vector goes from future to present to past. Reverse time vector (negative time vector) exists only when observer is made of opposite matter. The speed can cross the speed of light when observer is made of opposite matter. Gravity is attractive, thus, matters clumps together. Anti – gravity (the gravity between anti – matters) is also attractive. But the gravity between matters and anti – matters are repulsive. This is the reason all anti – matters are flown away from us although there is as much anti – matter as matter. Because the gravity between matters and anti – matters is repulsive, matters and anti – matters permanently secluded to form another Universe for anti – selves. Thus, parallel Universes do exist. And anti – gravity is attractive too (the gravity between anti – matters).

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