

Are Gamma-ray Bursts Caused by Multiverses?

Richard L. Marker
(March 8, 2020)

Abstract

Multiverses may provide the causal mechanism for gamma-ray bursts(GRBs). Assume that differing clock rates prevent interaction between universes in a multiverse. Gravitational time dilation in one universe may allow a temporarily connection to a slower universe. The formation and breaking of such a connection would produce neutrino emissions, gamma-ray emissions, and after-glow. This view derives from looking for a candidate that could connect universes; rather, than looking for an explanation of GRBs. email: rlmarker@spaceandmatter.org

1. Connect/Disconnect Process

What might we expect if time dilation in a black hole(BH) allows a faster universe to synchronize and connect with a slower universe? Energy and matter from the BH would be attracted into the slower universe. The energy and matter transfer slows the slower universe and speeds up the originating universe in the region of the connection. The clock-rate changes desynchronize and separate the connected universes. The process repeats itself as each universe regains an equilibrium.

2. Connecting

Connecting the space fabrics of two universes releases neutrinos from duplicate connections and produces gamma-rays from motion between the universes.

In the region of the connection, strands of the fabric of space would be duplicated. Duplicate strands disassociate from the fabric to produce neutrinos. Relative motion, especially circular motion, between the two universes would appear as magnetism or electromagnetic waves. Energetic particles would also be created.

The views in this paper originate from a reasoned and compelling way of looking at the structure of space and matter^[1].

3. Disconnecting

Disconnecting joined universes would leave vacancies in their space fabrics due to the loss of neutrinos during the earlier connection process. Some of the matter in the faster universe may also have moved into the slower universe.

A candidate for repopulating the vacancies would be a building process similar to the building process that *grows* a universe at its boundary. Comparing the GRBs' initial rebuilding glow with the cosmic microwave background(CMB) may provide clues about the nature of the GRBs' afterglow. It may also suggest an alternative explanation for the Big Bang and CMB.

4. GRBs from Binary Neutron Star or BH Merger

Could GRBs in one universe originate from black holes in a different universe? Could the recipient universe possibly gain a portion of the BH during this process? Janiuk et al (2017)^[2] propose events that suggest causal relationships may exist between BHs and GRBs.

Janiuk's paper explores events from the relationships of physics. This paper makes no attempt to provide a physical analysis of the novel view presented. With the temporary conjunction of two universes, usual conservation rules do not apply.

5. Binary Neutron Star Merger – Late Time Afterglow

Lazzatid et al (2018)^[3] observe a late time increasingly luminous afterglow from BNS merger GW170817. A faint gamma-ray pulse almost proved that BNS mergers are associated with some short GRBs, albeit not the canonical short GRBs which exhibit much greater luminosity.

With the multiverse view of GRBs, the luminous burst and release of neutrinos would result when a connection formed between two universes. When the universes separate from each other a repair to the fabric of space would follow. The repair process would be the very process that *grows* the universe and may produce the CMB.

The repair process happens over time and in a somewhat random fashion. Many connections would go through a process that creates matter and energy at the same time the fabric repairs itself.

6. Why Multiple Universes?

The thoughts that prompt the multiverse view make a difference. If the multiverse thought lacks a foundation, it carries no real value as an explanation for GRBs. The space structure underlying these thoughts suggests the likelihood of many separate universes. To be separate, a universe must have a different clock rate or handedness. This should not be confused with many-worlds, parallel universes, or extra dimensions.

The idea that the temporary connection of separate universes may actually be a GRB came from looking for possible signs of such a connection. The GRBs possess characteristics that make them a suitable candidate to consider.

The concept of independent universes originates from an unpublished metaphysical derivation of the structure of space and matter. Extension (ability to measure distance) lacks meaning in this derived structure. Regardless, we view the derived structure as having extension for visualization purposes. The visualized structure yields a direct calculation of the ratio of the gravitational force to electromagnetic force between two electrons^[4].

In addition to equal clock rates, several other conditions need to be satisfied for two universes to have their local space synchronized. This paper assumes those conditions are satisfied. If the conditions always fail to be satisfied, then this paper may be rendered moot.

References

1. Twisted Donut Chain Model of Space, Matter and Origin of Gravity. c1996-2018. Mount Vernon (WA): R. Marker. <http://spaceandmatter.org>, Section 26. [New Model of the Universe](#).
2. A. Janiuk, et. al. (2017, January 26). Black hole accretion in gamma ray bursts. [arXiv:1701.07753\[astro-ph.HE\]](#)
3. D. Lazzatid, et. al. (2018, May 11). Late time afterglow observations reveal a collimated relativistic jet in the ejecta of the binary neutron star merger GW170817. [arXiv:1712.03237v4\[astro-ph.HE\]](#)
4. R. Marker (2019, September 21) Theoretical Value for Gravitational Constant. [viXra:1909.0463](#), 14-15.