The Big Bang and the Hawking radiation

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Abstract

Hawking radiation is the black hole radiation due to quantum effects near the black hole event horizon in empty space (vacuum). It is actually the evaporation process of the black hole since it generates and radiates a real particle out of empty space and losses the same energy back into the empty space. This paper tries to analyze what will happen if the black hole will be located in a space filled with energy, dominated by highly energetic Gamma ray photons. This paper suggests that the Hawking radiation due to quantum effects near the black hole event horizon in a space dominated by highly energetic photonic radiation will cause the extreme expansion of space and can explain the inflation phase of the Big Bang.

Introduction

Let's assume a black hole in the center of an early universe dominated by highly energetic photonic rays. Based on the standard gravitational theory, some of the photons will undergo a gravitational blue shift which will increase their energy as they will enter into the black hole and increase its mass and its event horizon surface. Since this imaginary space is dominated by energetic photons, we can define conditions in which the black hole will keep on increasing its size and mass, due to the photonic energy surrounding it, until, it will "swallow" the entire space surrounding it and this space-time will end in a big "crunch" into the black holes singularity, time will stop and information will be lost forever.

The space-time conservation law

The space-time curvature and time conservation law (2) suggests that photons travel at the speed of light in all reference frames due to the fact that they do not curve space and do not apply gravitational time dilation. Since an energetic photon can generate a pair of matter and anti-matter , the conservation law suggests that since matter curves space and applies time dilation (time runs slower) through gravity ,anti -matter must expand space and apply anti time dilation (time runs faster) through anti-gravity. Matter particles attract each other while their entangled anti-matter pair particles must reject each other, based on this conservation law.

The Big bang

Before the big bang space-time was extremely condensed and extremely hot dominated mainly by energetic photons. Since photons as this paper suggests, do not apply gravitation, space–time was in a steady state condition. The energetic photons generated entangled matter and anti-matter pairs that annihilated each other most of the time after a short period, leaving behind gravitational ripples in the fabric of space time (figure 1). This steady state conditions lasted until, by chance, few matter particles were generated close enough to form a gravitational pull (figure 2) that generated a local small black hole in a highly condensed energetic photon dominated space (the extreme conditions prior to the big bang). The black hole gravitational effect on matter and its anti –gravitational effect on anti-matter, tear apart the energetic photons into matter and anti-matter pairs (figure 3). The matter particles were sucked into the black hole while their anti-matter partners were ejected away from the event horizon. The matter particles that entered the black hole increased its mass and size while the ejected anti-matter particles, with their anti-gravitation characteristics, triggered the expansion of space or as we refer to it, the big bang (figure 4). As the black hole grew in a short period tearing the energetic photons surrounding its vast growing event horizon, using the matter particles as a fuel to its exponential growth while ejecting the anti-matter particles deep into the expanding space as they increase the expansion of space. This aggressive phase of the expansion of space will be referred to as the inflation period. Due to the expansion of space the energetic photons decreased in their photonic energy and the increase in the growth of the black hole slowed down, slowing down the process detailed above causing a slowdown in the expansion of space. This was the end of the big bang inflation period (figure 5).

Conclusion

The inflation phase was triggered by a black hole generated in a highly energetic dominated space. Assuming that photons have no influence on the curvature of space-time and assuming that there is a conservation of gravitational curvature and time dilation, this paper suggests that the black hole ripped apart with its gravitational force the photons near its event horizon, to matter and anti-matter pairs. The matter particles fueled the increase in mass and size of the black hole while their entangled anti-matter pairs were ejected into space causing the expansion of space due to their anti-gravitational effect on space-time. This aggressive process is responsible to the cosmological inflation period of the big bang. As space expanded the photonic energy decreased and space became matter and anti-matter dominated while matter gathered together due to their gravitational behavior and anti-matter particles spread throughout space due to their anti-gravitational behavior.

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(1). Hawking radiation and the expansion of the universe

https://vixra.org/pdf/1610.0013v1.pdf

(2). The conservation of time through entanglement between matter and anti-matter.

https://www.slideshare.net/eransinbar1/non-quantum-entanglement-through-time-and-gravity

(3).The grid extra dimensions theory

https://vixra.org/pdf/1608.0211v1.pdf

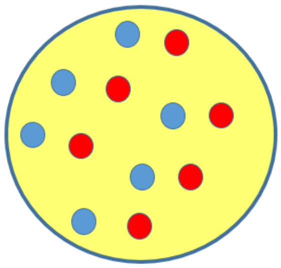

Figure 1: before the big bang the dense universe was dominated by energetic gamma photons (the yellow background) without nearly any gravitational curvature or gravitational time dilation. A photon can generate a pair of entangled matter (blue circles) and anti-matter (red circles) particles that will annihilate most of the time each other and generate back the same photon

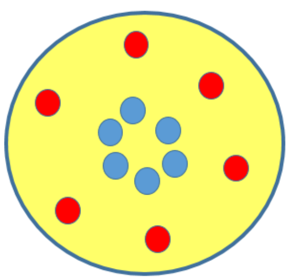

Figure 2: by chance, matter particles might generate a local cluster. These matter particles will generate a local curvature in space-time .their anti – matter entangled particles will increase their anti – gravity push, based on conservation of gravitational curvature and time dilation (2),

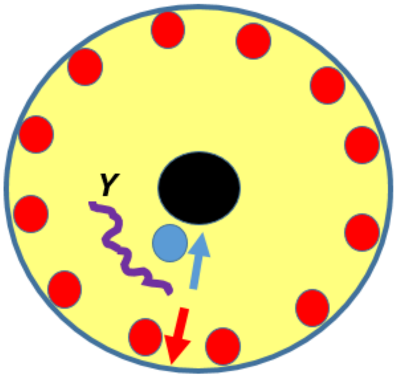

Figure 3: If this cluster of matter particles becomes a small black hole (black circle), near its event horizon, photons (illustrated with the letter ***Y***) are ripped apart to matter and anti – matter pairs due to the strong gravitational pull. Matter particles will enter the black hole increasing its size and mass, while their entangled anti – matter particles will be scattered into space, expanding space as a contrast to the curvature of the black hole.

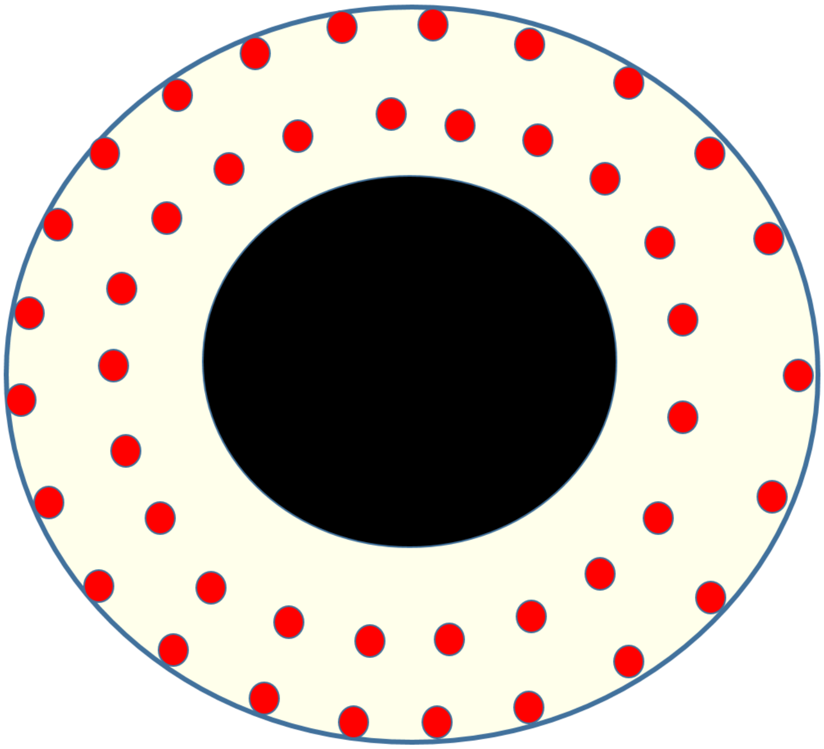

Figure 4: As the black hole rips photons and swallows their matter particle, the black hole will increase its size and mass and the anti – particles will increase the expansion of space. This is the big bang inflation phase. Since all the entangled anti matter particles are entangled to the same black hole the inflation phase is uniform and homogenous throughout the entire fabric of space-time.

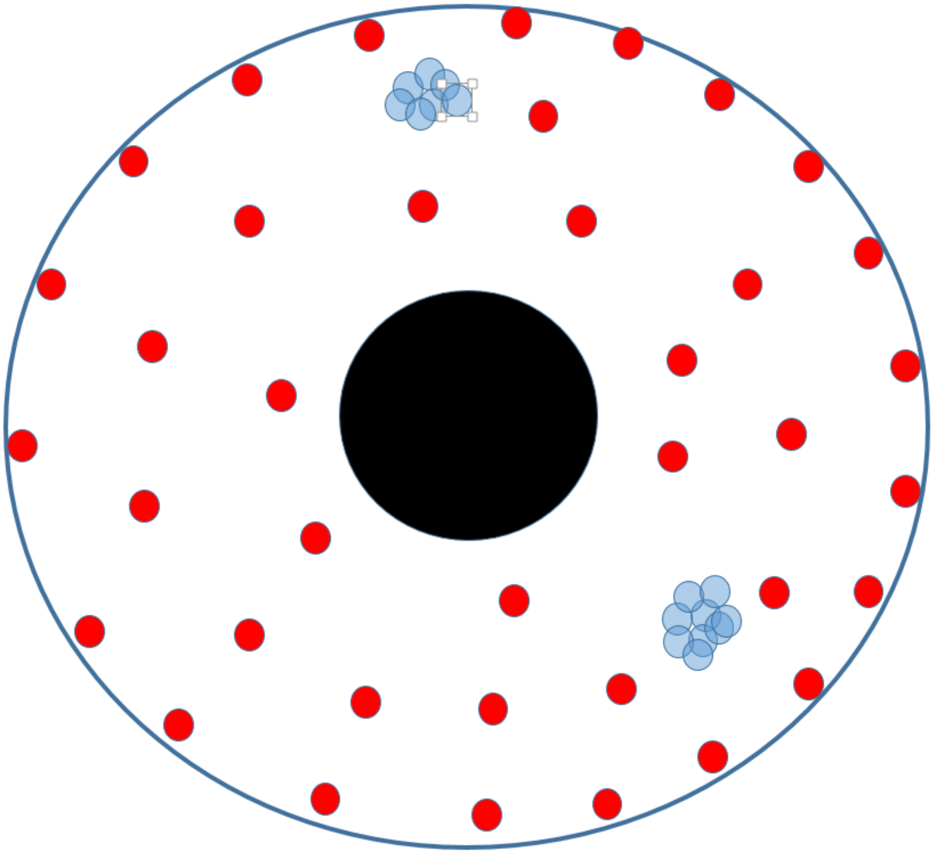

Figure 5: The photons start losing their energy due to the expansion of space. As the photonic energy decreases the matter particles ripped apart from their anti-matter pairs near the black holes event horizon contribute less energy to the black hole and thus less energy to the expansion of space and this ends the inflation phase of the big bang. At that phase the universe is matter and anti –matter dominated, as matter particles cluster up to stars and eventually explode or collapse into a black hole. Between the particles most of space is dominated by vacuum. The vacuum generates pairs of matter and anti-matter virtual particles that pop in and out of existence from the grid extra dimensions (3). The matter particles near the black holes event horizon will be swallowed into the black hole while their anti –matter entangled pair is radiated into space (1). This procedure, called the Hawking radiation slowly evaporates the black holes in the universe, generates real anti matter particles and accelerates the expansion of space.