Wave length and gravitation

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Abstract: If we assume that photonic energy curves space time, we will reach a conflict which requires a whole new approach to anti-matter and anti-gravity.

1. Introduction

Let's imagine a photon (or photons) travelling through space time. If the photonic energy curves space-time, then the curvature of space-time will decrease the photonic wavelength, which will increase its photonic energy (gravitation blue shift), which will increase the curvature of space time, which will decrease the photonic wavelength and so on (figure 1) until this positive unstable feedback loop will generate enough energy to generate a local black hole and the photons will disappear into the black hole (figure 2). We know that this is not what we see in our daily life, since photons are stable regarding their wavelength as they travel through space-time.

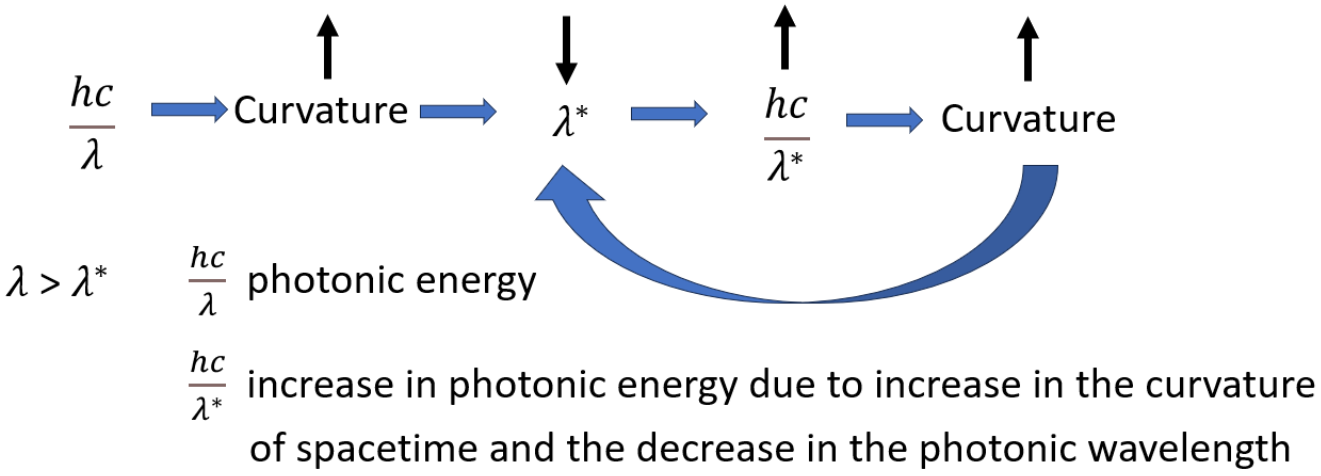

Figure 1: unstable positive feedback loop where the arrow pointing up means increase and the arrow pointing down means decrease.

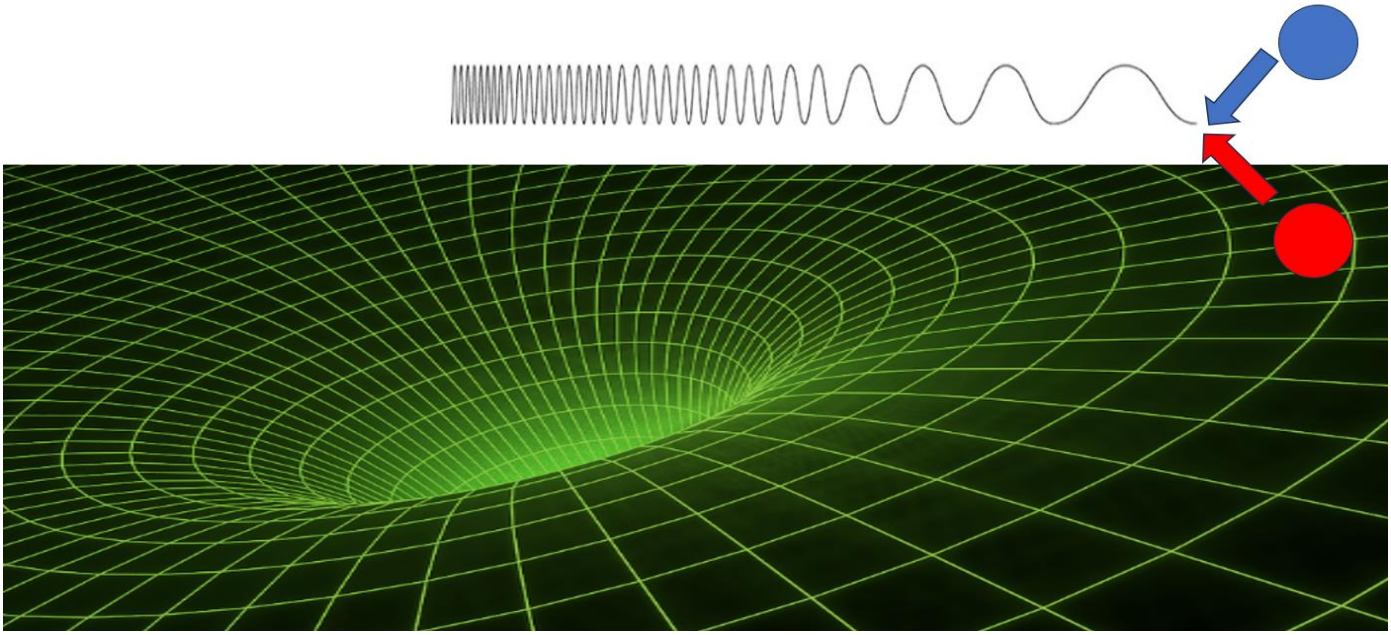

Figure 2: the red circle illustrates a matter particle, and the blue circle illustrates an anti-matter particle. As these two particles collide, they annihilate each other and generate a photon (or photons). If the photonic energy curves spacetime this curvature will start an unstable positive feedback loop (as described in figure 1) that will keep on curving spacetime, decreasing the photonic wavelength and increasing the photonic energy, until a black hole is formed.

Conclusion

Since we never see an unstable positive feedback loop that generates a black hole when photons travel through spacetime, we can conclude that photons apply zero curvature on spacetime. If we assume that matter and antimatter were formed from photons after the big bang and if we assume that the total curvature of space time is conserved throughout the universe, then antimatter should apply negative curvature to spacetime (anti-gravity), in contrast to matter that applies positive curvature to space time (gravity). This can explain why we never see antimatter stars since antimatter particles apply antigravity and will never cluster together, and they can be part of the dark energy that leads to the expansion of spacetime.