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Disproving The Graviton

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ABSTRACT. Two models of the graviton and their dynamics are presented and subsequently disproved. An experiment involving differing compositions of rock formations is proposed that would empirically solidify the incorrectness of the two models.

Pick a mountain and a volcano. Mountains and volcanos have different compositions and therefore different atomic and molecular structures. The two formations should be the same mass and have the same magnitude and altitude of their centers of gravity.

Finding the center of gravity and its magnitude of the formations needs to be done by topological analysis and with the use of a gravimeter. A gravimeter precisely measures the magnitude of the force of gravity. You also need to know the gravity of what is below the formation. The position of the moon needs to be taken into account. The time of year needs to be taken into account because the earth does not have a perfectly circular orbit around the sun. Therefore, at different times of the year, the sun will pull on the earth by different amounts. The time of day also needs to be taken into account because the distance from the sun varies with that variable. There may be other things to take into account.

You position yourself, along with a gravimeter, at the base of the formations, the same distance from their centers of gravity, on different days. Wait until the sun is coming up on the opposite side of the formations. When the sun is in the sky (by 45 degrees for example), but still blocked from your view by the formations, make a measurement using the gravimeter of how much the gravimeter is being pulled towards the center of the earth.

Gravitons, if they exist, coming from the sun will penetrate the formations and some gravitons will make it through the formations to your gravimeter. If the formation blocked all of the gravitons coming from the sun to your gravimeter, then the formation would be virtually solely responsible for the gravity pulling in that direction (the moon might play a role but, along with the formation, would not be enough to give results consistent with established equations). For example, an object in space the same mass as the formation, would produce a lot less gravity than if the sun were behind it and you were in the object's shadow. Therefore, you know that if gravitons exist, then some of them must be coming through the formation. The formation will also produce gravitons and will register on your gravimeter. Of course the earth will be emitting gravitons as

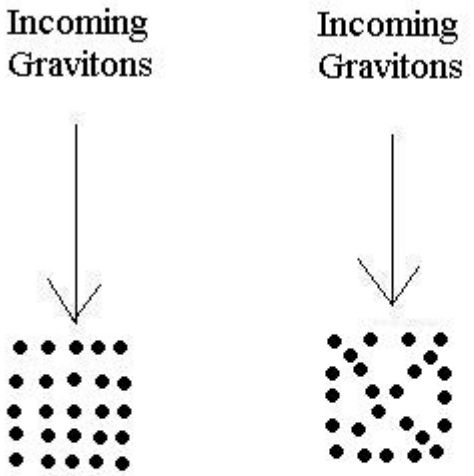
well, along with the moon etc. This is the classic model of the graviton where all matter and energy emit gravitons. The gravitons are thought to be absorbed by what they collide with and their energy is converted to acceleration of that thing.

Two objects can have the same mass and center of gravity but have different atomic and molecular structures. In other words, two objects with the same mass and center of gravity can block a different amount of particles coming through them. This shows that a balance producing well-established gravity formulas between the formations' absorption of gravitons and the formations' emission of gravitons can not exist because different structures will block different amounts of gravitons all while having the same mass and center of gravity.

This also shows that the graviton replication idea in a paper titled "The force of gravity in Schwarzschild and Gullstrand-Painlevé coordinates[1]" is false. I have been in correspondence with the author, Carl Brannen, and he has given me permission to use the information in our correspondence and in his paper for this paper. In his paper, it mentions gravitons interacting and multiplying. Through correspondence, Carl has explained that his theory operates by two gravitons, at a close enough angle of propagation, interacting to form additional gravitons. A quote from the conclusion of his paper reads: "Consequently, we obtain that the graviton density increases at a rate proportional to the square of the density of gravitons. In a perturbation theory of gravitons, this term would arise by allowing two gravitons to interact to create three (or more) all moving in the same direction."[2] Consider two objects with the same mass and center of gravity but different molecular structures. According to Carl's replication idea, the mountain's and volcano's gravitons are interacting with the sun's gravitons and multiplying. In order to agree with established experiment, the mountain and volcano would have to replicate the same amount of gravitons and allow the same amount of gravitons to reach your gravimeter. Here is a graphic to illustrate this:

1 Brannen, C. (2009). *The force of gravity in Schwarzschild and Gullstrand-Painlevé coordinates*. arXiv.org. Retrieved from http://arxiv.org/PS_cache/arxiv/pdf/0907/0907.0660v1.pdf

2 Brannen, C. (2009). *The force of gravity in Schwarzschild and Gullstrand-Painlevé coordinates*. arXiv.org. Retrieved from http://arxiv.org/PS_cache/arxiv/pdf/0907/0907.0660v1.pdf



Different molecular structures with the same mass and center of gravity location and magnitude. According to Carl's replication idea, the one on the left would a) let more gravitons through, and b) replicate more because there are more gravitons moving through it with which to replicate. But we know from experiment that two objects with the same center of gravity magnitude and location pull on us the same.

Figure 1:

Imagine lines through the formations from the sun and from the structures that gravitons could hypothetically take to points below each formation in the figure. The one on the left allows more from the sun *and* more from the structure's components. Both formations have the same number of dots, each representing an atom or molecule.

So what can we conclude from all of this and how would the experiment with the mountain and volcano play out? We know the graviton can not exist in the classic model of balance between emission and blockage. We know this because two formations with the same mass and center of gravity would block different amounts of gravitons while not making up for that by the gravitons they produce and let through like the formation on the right side of Figure 1. We can also conclude that the graviton can not exist in a model of emission, absorption, and replication (Carl's idea). We know this because of Figure 1: Two formations with the same mass and center of gravity

would themselves emit different amounts of gravitons (due to their atomic and molecular structures allowing the one on the left to emit larger amounts of gravitons out of it that the formation has produced itself). The one on the left would also block less amounts of gravitons coming from the sun than the one on the right. The one on the right can not make up for that deficiency by replicating more because there are less gravitons to work with as a result of the increased blockage. According to this reasoning, Einstein's Relativity[3] should determine the readings on the gravimeter. The measured mass of the formation you are at the base of plus the mass of the sun, with the mass of the earth and any other relevant variables taken into account, should determine the reading on the gravimeter. If the reading of gravitation towards the earth is unexpectedly low, then perhaps the graviton is not a lost cause, as some gravitons from the sun would be blocked by the mountain and volcano. Remember, the key to this whole paper is that differing atomic and molecular structures can have the same mass and center of gravity yet let differing amounts of particles through their structures.

References:

Brannen, C. (2009). *The force of gravity in Schwarzschild and Gullstrand-Painlevé coordinates*. arXiv.org. Retrieved from http://arxiv.org/PS_cache/arxiv/pdf/0907/0907.0660v1.pdf

Einstein, A. and Lawson, R. (2005). *Relativity: The Special and the General Theory.* New York, NY: Pi Press.

3 Einstein, A. and Lawson, R. (2005). *Relativity: The Special and the General Theory.* New York, NY: Pi Press.