

# THE SCIENTIFIC METHOD FOR PHYSICS

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## ABSTRACT

The scientific method is used to substantiate or falsify a hypothesis/theory, but physicists don't seem to understand that a physics hypothesis/theory must always be realistic. A physics hypothesis/theory needs to describe something that can exist nature/reality, but physicists also substantiate unrealistic physics hypotheses/theories. Most hypotheses/theories in modern theoretical physics describe science fiction, and that means that most mysteries are man-made.

## INTRODUCTION

A physics hypothesis/theory requires an assumption, and then it needs to be substantiated with mathematical calculations, experiments, observations or predictions. The hypothesis/theory needs to be falsifiable as well, it cannot be meaningfully tested if you cannot prove that it's false. So you need to be able to contradict the hypothesis/theory with the results of mathematical calculations, experiments, observations or predictions, the conclusions might require that the hypothesis/theory needs to be adjusted, rejected or they will conclude that it's correct.

I mentioned that a physics hypothesis/theory requires an assumption, but physicists don't seem to understand that the assumption must always be realistic. A physics hypothesis/theory needs to describe something that can exist nature/reality, because logic dictates that an unrealistic hypothesis/theory can never describe something that can exist in nature/reality. So when it's obvious that a hypothesis/theory is unrealistic, then it's obvious that it cannot be correct. A hypothesis/theory might look realistic at first, but if it contains an unrealistic element then you can only conclude that it's incorrect. If the hypothesis/theory looks realistic, then it can only become realistic when you remove/replace the unrealistic elements. But if you cannot remove/replace the unrealistic elements, then you must always discard the hypothesis/theory. An unrealistic hypothesis/theory can only be a mathematical theory (f.e. a mathematical model), it can never describe a realistic thing/process/etc in nature/reality.

Physicists don't seem to realize that most hypotheses/theories in modern theoretical physics are unrealistic, they truly believe that those hypotheses/theories are or can become realistic when they are substantiated with mathematical calculations, experiments, observations or predictions. They don't seem to understand that an unrealistic hypothesis/theory will always remain unrealistic, it will always be realistically seen incorrect. So when an unrealistic hypothesis/theory looks correct then you need to realize that you need to alter something, you need to figure out why it looks correct. That unrealistic hypothesis/theory cannot describe the real reason why it looks correct, so you need to replace that unrealistic reason with the real reason.

Here are a few examples, physicists don't realize that the following theories are unrealistic. So they failed to see that these theories are incorrect, they failed to see that needed to adjust or reject these theories.

The formula  $E=mc^2$  is an example of an unrealistic theory, because it tells us that a mass requires an infinite amount of energy to reach the speed of light. Each physicist will say that the formula looks mathematically sound, but is that "infinite amount of energy" realistic? The answer is NO, an infinite amount of energy is unrealistic and that means that the formula/theory cannot be correct. And because you cannot adjust/replace that "infinite amount of energy" in this theory, then we can only conclude that Einstein made a mistake and that means that we need to reject the formula/theory. Physicists failed to find out what's wrong with that famous formula/theory, and I described why it's wrong in my Vixra paper 1708.0009. Einstein made two mistakes, he failed to see that time is not relative and he/physicists failed to see that the speed of light is not the speed of light. Einstein didn't know what time was, so when you come to the conclusion that time is relative then you first have to know what time is (otherwise you're guessing). A second is created by a clock, so what happens when that clock requires more or less time to create that second? The second will become longer or shorter (unnoticed), so it will look as if time runs slower or faster but it doesn't. So time is not relative, time dilation is an unnoticed difference in the length of the seconds. Time doesn't run faster near a gps satellite, those seconds are shorter than the seconds on Earth and I explain why in my Vixra paper 1607.0495. And Einstein/physicists failed to see that light has the properties of a transfer speed of a medium, photons are transferred from one ether particle to another with a transfer speed of 300.000 km/s (I explain why in my Vixra paper 1706.0367).

But there is another example and it's more important than the previous example, because that example is the foundation of modern theoretical physics. Einstein claimed that gravity was the result of curved space, and because gravity and time changed simultaneously he assumed (guessed) that gravity affects time.

But that was a huge mistake as well, when you come to the conclusion that gravity affects time then you first have to know what gravity and time are (otherwise you're guessing). And you can easily determine that gravity doesn't affect time, I explained why in my Vixra paper 1508.0191. But more important, it was very obvious that Einstein's reason for gravity was unrealistic because you cannot compare curved space/spacetime to anything in nature. And Einstein couldn't even visualize the curvature of space in a realistic 3-dimensional model, he deliberately visualized it in an unrealistic 2-dimensional model but physicists failed to see that warning sign. When you cannot visualize a simple process as the curvature of space in a realistic 3-dimensional model, then you need to adjust or reject the theory. And that is when Einstein/physicists made a huge mistake, they concluded that the theory was realistic because it was substantiated with mathematical calculations, experiments, observations or predictions. And they made another huge mistake, they intertwined other theories with Einstein's unrealistic theory of gravity and those theories became unrealistic as well. Einstein/physicists failed to see that they needed to replace that unrealistic reason for gravity with the real reason for gravity, and that is how they got lost in science fiction.

And there are more examples of unrealistic theories, it's very obvious that 4-dimensional spacetime in a 3-dimensional universe, gravitational waves in spacetime, massive black holes, dark matter, Big Bang, dark energy, string theory, M-theory, holographic principle, information theories like the displacement of information, infinite amount of dimensions, infinite density (singularities), etc are unrealistic theories as well, those theories describe things that cannot be compared to anything in nature/reality but physicists fool themselves that those theories are realistic. There is an unnoticed link between those unrealistic theories, they are all intertwined with Einstein's unrealistic theory of gravity. That is the problem with modern theoretical physics, most theories describe science fiction. That is also the reason why the discoveries of those gravitational waves are only based on data, you can only find something that cannot exist when you simulate a discovery, or when you fail to see that the data is not real, or when the data is noise.

## CONCLUSION

Most theories in modern theoretical physics describe science fiction, and that is also devastating to other research areas. Physicists used/use the scientific method to substantiate unrealistic theories and that is the reason why they cannot solve the mysteries, most mysteries are man-made.