

How the string theory was born

[Environment](#), [Nature](#)



To understand the true nature of reality things were looked closely and scientists were amazed. All of them made of structures of molecules made up of countless even smaller things called atoms. They were thought to be the finest layer of reality until they were smashed together really hard and things were discovered which can't be divided anymore called the elementary particles but there was a problem that they were so small that they can't be looked by anyone. To see something we need light and electromagnetic wave, this wave hits the surface of the thing and gets reflected back from it into our eyes. The wave carries information from the object that your brain uses to create an image that means you can't see something without interacting with it in any way. This is not the problem with many things but elementary particles are very small, so small that the electromagnetic waves we use to see are too big that they pass without touching them.

We can try to solve this problem by creating a wave with smaller and more wavelengths but more wavelengths mean more energy. So when we touch a particle with more energy it alters it. by looking at a particle we change it so we can't measure elementary particles precisely. This fact is known as the Heisenberg Uncertainty Principle (the basis of all quantum physics). If we look really hard we see a blurry image but not the particles themselves we just know they exist. The story of the point particle was then developed. This states that any electron has a certain charge and mass. This solved a lot of problems. But gravity was the hurdle. So the string theory was born.

It describes many elementary particles as different modes of vibration of the strings. String theory needs 10 dimensions to work. So string theorists did

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calculations in model universes and then tried to get rid of the 6 additional dimensions and describe our own universe but so far no body has succeeded and no prediction of string theory has been proven in any experiment but string theory works well in mathematics for example imagine you want to build a cruise ship but you only have the blueprints of a small rover boat, there are a plenty of differences but both things are fundamentally the same things that float so it can be built if you study the blueprints of a rover boat. With string theory we can answer a lot of questions of gravity.